NORTHEAST CHURCH ROCK PROJECT

Revised 95% Design Submittal - September 2018
Volume 2 - Design Drawings

Prepared For

UNITED NUCLEAR CORPORATION AND GENERAL ELECTRIC COMPANY

REV	DATE	BY	DESCRIPTION
D	09/24/18	KR	ISSUED FOR LAR
C	04/09/18	KR	ISSUED FOR REVISED 95% DESIGN
B	10/30/17	KR	ISSUED FOR 95% DESIGN
A	07/15/16	KR	ISSUED FOR 30% DESIGN

DESIGNED K REED
CHECKED M WITLER
APPROVED J CUMBERS

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UNITED NUCLEAR CORPORATION AND NORTHEAST CHURCH ROCK MINE
McKINLEY COUNTY, NEW MEXICO

NORTHEAST CHURCH ROCK PROJECT 95% DESIGN
COVER SHEET

SHEET
1-01
233001048

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NORTHEAST CHURCH ROCK PROJECT 95% DESIGN SUBMITTAL

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McKINLEY COUNTY, NEW MEXICO

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SHEET INDEX

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GENERAL NOTES - CIVIL:

GENERAL:

1. THE CONTRACTOR SHALL TAKE ALL PRECAUTIONARY MEASURES NECESSARY TO PROTECT EXISTING IMPROVEMENTS WHICH ARE TO REMAIN IN PLACE FROM DAMAGE. ALL IMPROVEMENTS DAMAGED BY THE CONTRACTOR'S OPERATIONS SHALL BE EXPEDITIOUSLY REPAIRED OR RECONSTRUCTED AT THE CONTRACTOR'S EXPENSE WITHOUT ADDITIONAL COMPENSATION.
2. ALL BUILDING COORDINATES ARE TO OUTSIDE CORNER OF COLUMN OR BUILDING.
3. CONTRACTOR SHALL RESTORE ALL SURVEY MONUMENTS THAT ARE DAMAGED OR DESTROYED DURING CONSTRUCTION.
4. SITE SURVEY IN STATE PLANE COORDINATES, NEW MEXICO WEST, NAD83, US FEET.

UTILITIES:

1. PRIOR TO THE START OF CONSTRUCTION, THE CONTRACTOR SHALL LOCATE ALL EXISTING UTILITIES IN AND AROUND THE AREAS OF NEW CONSTRUCTION.
2. THE CONTRACTOR SHALL PROTECT ALL REMAINING EXISTING UTILITIES.
3. LOCATIONS OF UNDERGROUND UTILITIES SHOWN ON THE DRAWINGS WERE OBTAINED FROM AVAILABLE RECORDS. THE CONTRACTOR SHALL VERIFY ALL LOCATIONS AND ELEVATIONS AND SHALL TAKE ALL PRECAUTIONARY MEASURES NECESSARY TO PROTECT UTILITY LINES WHETHER SHOWN OR NOT SHOWN.
4. PRIOR TO ANY CONNECTION TO AN EXISTING UTILITY, THE CONTRACTOR SHALL COORDINATE WITH THE UTILITY OWNER.
5. PRIOR TO ANY EXCAVATION IN THE VICINITY OF ANY EXISTING UNDERGROUND FACILITIES, INCLUDING ALL WATER, SEWER, STORM DRAIN, GAS, PETROLEUM PRODUCTS, OR OTHER PIPELINES; ALL BURIED ELECTRIC POWER, COMMUNICATIONS, OR TELEVISION CABLES; ALL TRAFFIC SIGNAL AND STREET LIGHTING FACILITIES; AND ALL ROADWAY, STATE HIGHWAY, AND RAILROAD RIGHTS-OF-WAY, THE CONTRACTOR. SHALL NOTIFY THE RESPECTIVE AUTHORITIES REPRESENTING THE OWNERS OR AGENCIES RESPONSIBLE FOR SUCH FACILITIES NOT LESS THAN 3 DAYS NOR MORE THAN 7 DAYS PRIOR TO EXCAVATION SO THAT A REPRESENTATIVE OF SAID OWNERS OR AGENCIES CAN BE PRESENT DURING SUCH WORK IF THEY SO DESIRE. IN THE CASE OF THE UNDERGROUND UTILITY SERVICE ALERT CENTER, THIS NOTICE WILL GIVE THEM TIME TO MARK THE LOCATION OF THE UTILITIES. THE CONTRACTOR SHALL ALSO NOTIFY THE REGIONAL OR LOCAL UNDERGROUND SERVICE ALERT COMPANY AT LEAST 3 DAYS, BUT NO MORE THAN 7 DAYS, PRIOR TO SUCH EXCAVATION.

EROSION CONTROL:

1. THE CONTRACTOR SHALL SUBMIT A CSWPPP TO THE DESIGN ENGINEER FOR APPROVAL PRIOR TO THE START OF CONSTRUCTION.
2. NO ACTIVITY MAY BEGIN UNTIL THE CONTRACTOR HAS RECEIVED WRITTEN APPROVAL OF THE CSWPPP.

LEGEND:

7200	EXISTING GROUND SURFACE CONTOURS & ELEVATION, FEET
7200	PROPOSED SURFACE CONTOURS & ELEVATION, FEET
	NECR MINE PERMIT BOUNDARY
	UNC PROPERTY BOUNDARY
	MINE FACILITY OR AREA BOUNDARY
	APPROXIMATE NAVAJO NATION BOUNDARY
	EXISTING ROADS
	NATURAL DRAINAGE
X	EXISTING FENCE
	RAL SURFACE SOIL BOUNDARY
	RAL SUBSURFACE SOIL BOUNDARY
	SECTION LINE
PW	OVERHEAD POWER LINES
	PIPELINE
	STRUCTURES
MATCHLINE STA 10+00	MATCHLINE
	CULVERT
	GATE
	GATE LOCATION
	CONTACT WATER FLOW DIRECTION
	NON-CONTACT WATER FLOW DIRECTION
	MUD GRATES

SYMBOL:

36	SECTION NUMBER
	SURVEY CONTROL POINTS
	MONITORING WELL
	BOREHOLE
	TEST PIT
S	STORMWATER POND
X	PROFILE OR CROSS SECTION IDENTIFICATION
XX	DRAWING NO. WHERE PROFILE/SECTION IS SHOWN
X	DETAIL IDENTIFICATION
XXXXXX	DETAIL DESCRIPTION
XXX	DRAWING NO. WHERE DETAIL IS SHOWN
X:X	FILL SLOPE, H:V (HORIZONTAL TO VERTICAL)
X:X	CUT SLOPE, H:V (HORIZONTAL TO VERTICAL)
X X	SLOPE RATIO
1	REMOVAL AREA ID
	METAL
	CONCRETE
	PLASTIC
	WOOD
	OTHER (INCLUDING MIXED DEBRIS IN BONEYARD AND POND 1)
	SUBSURFACE GEOPHYSICAL ANOMALY
	HISTORICAL SHAFT
	VENT HOLE

ACRONYMS:

B	BORING
BMP	BEST MANAGEMENT PRACTICE
CF	CUBIC FEET
CSF	CONSTRUCTION SUPPORT FACILITIES
CSWPPP	CONSTRUCTION STORMWATER POLLUTION PREVENTION PLAN
CTR	CONTROL
CY	CUBIC YARDS
D_{50}	MEDIAN DIAMETER
EB	EAST BORROW
EF	EACH FACE
EL	ELEVATION
EW	EACH WAY
FT OR '	FEET
GE	GENERAL ELECTRIC COMPANY
GW	GROUNDWATER
HWY	HIGHWAY
MIN	MINIMUM
NB	NORTH BORROW
NECR	NORTHEAST CHURCH ROCK
NM	NEW MEXICO
NN	NAVAJO NATION
NOM.	NOMINAL
PTW	PRINCIPAL THREAT WASTE
PW	POWER
R	RANGE
RAL	REMOVAL ACTION LIMITS
RCBC	REINFORCED CONCRETE BOX CULVERT
S	STORMWATER
SB	SOUTH BORROW
SQFT	SQUARE FEET
STA	STATION
STP , NTP	TEST PIT
T	TOWN
TBD	TO BE DETERMINED
TDA	TAILINGS DISPOSAL AREA
TPH	TOTAL PETROLEUM HYDROCARBONS
TYP	TYPICAL
UNC	UNITED NUCLEAR CORPORATION
US EPA	UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WB	WEST BORROW

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NORTHEAST CHURCH ROCK PROJECT 95% DESIGN
GENERAL NOTES AND ACRONYMS

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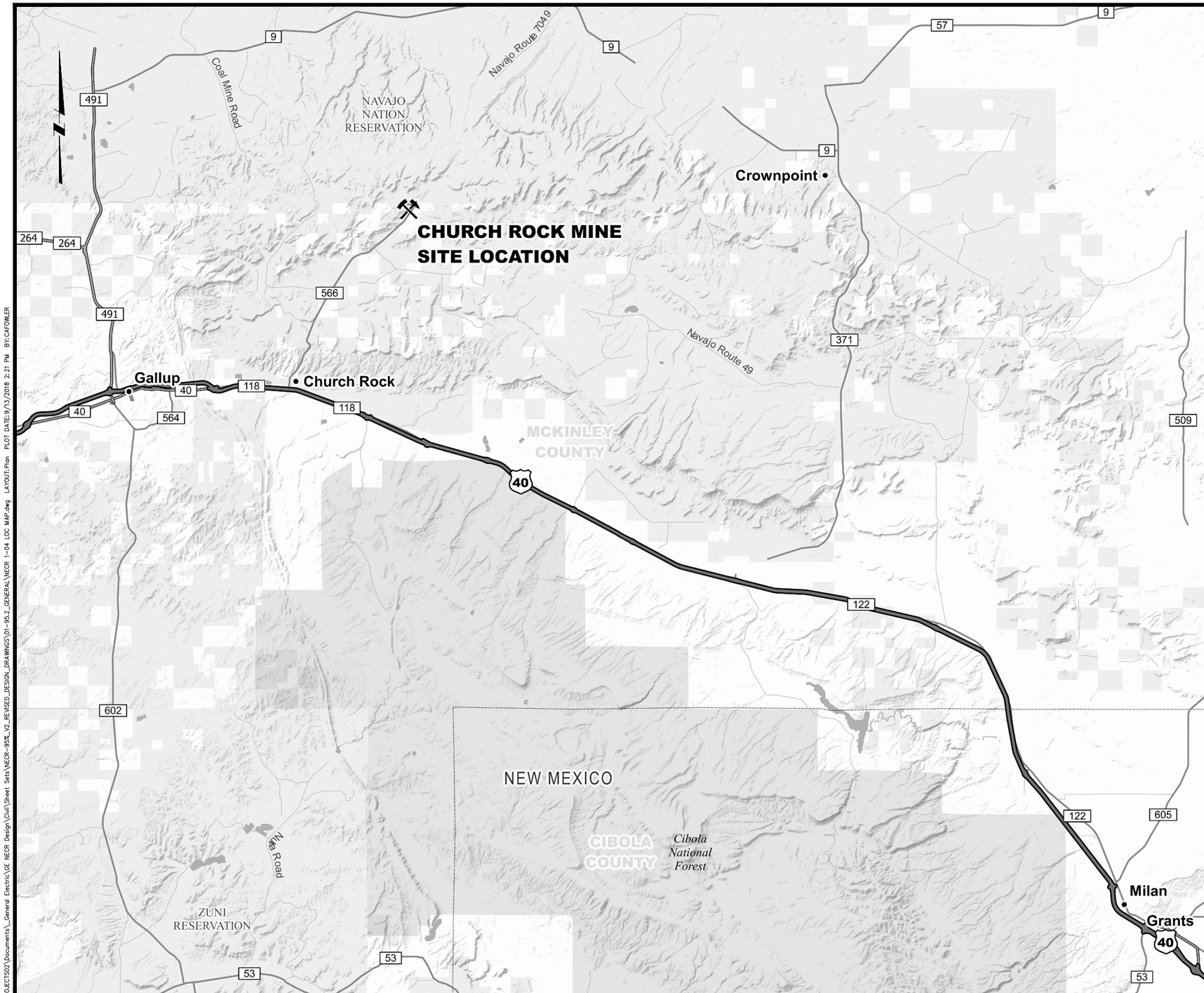
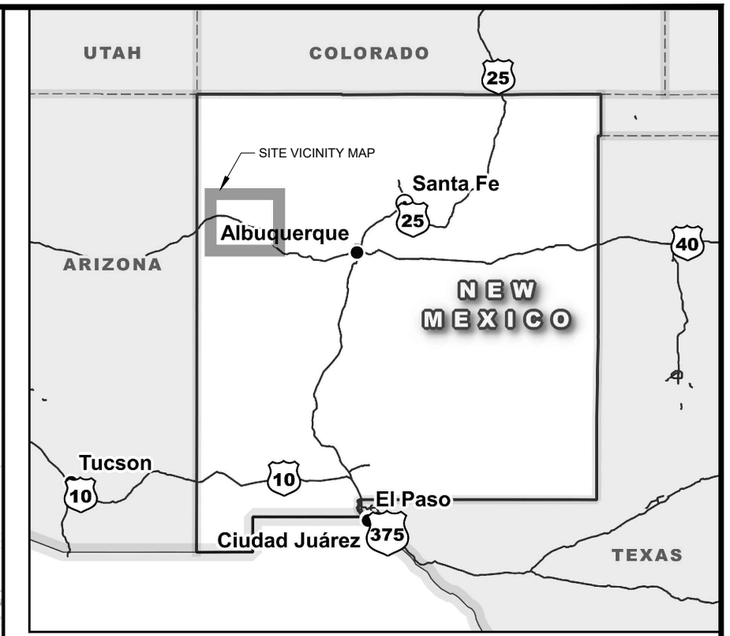


SITE VICINITY MAP

5 0 5 Miles



SITE LOCATION MAP

100 0 100 Miles

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SITE LOCATION MAP

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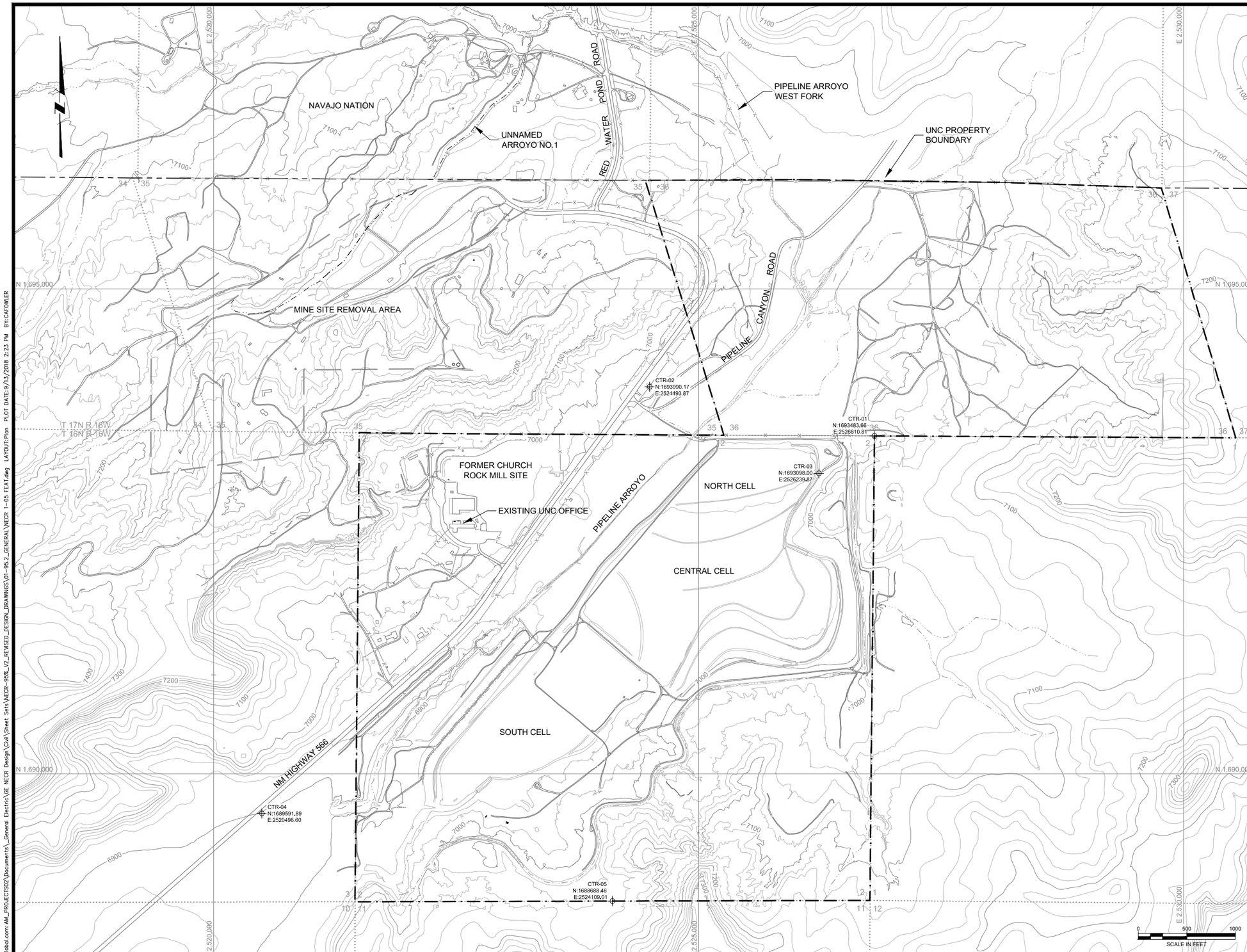

LEGEND:

- EXISTING GROUND SURFACE CONTOUR & ELEVATION, FEET (7200)
- NECR MINE PERMIT BOUNDARY
- UNC PROPERTY BOUNDARY
- APPROXIMATE NAVAJO NATION BOUNDARY
- ROADS
- NATURAL DRAINAGE
- EXISTING FENCE
- STRUCTURES
- SECTION LINE
- SECTION NUMBER (36)
- SURVEY CONTROL POINTS

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McKINLEY COUNTY, NEW MEXICO

NORTHEAST CHURCH ROCK PROJECT 95% DESIGN
PRINCIPAL EXISTING CONDITION, SITE FEATURES, AND SURVEY CONTROL

SHEET
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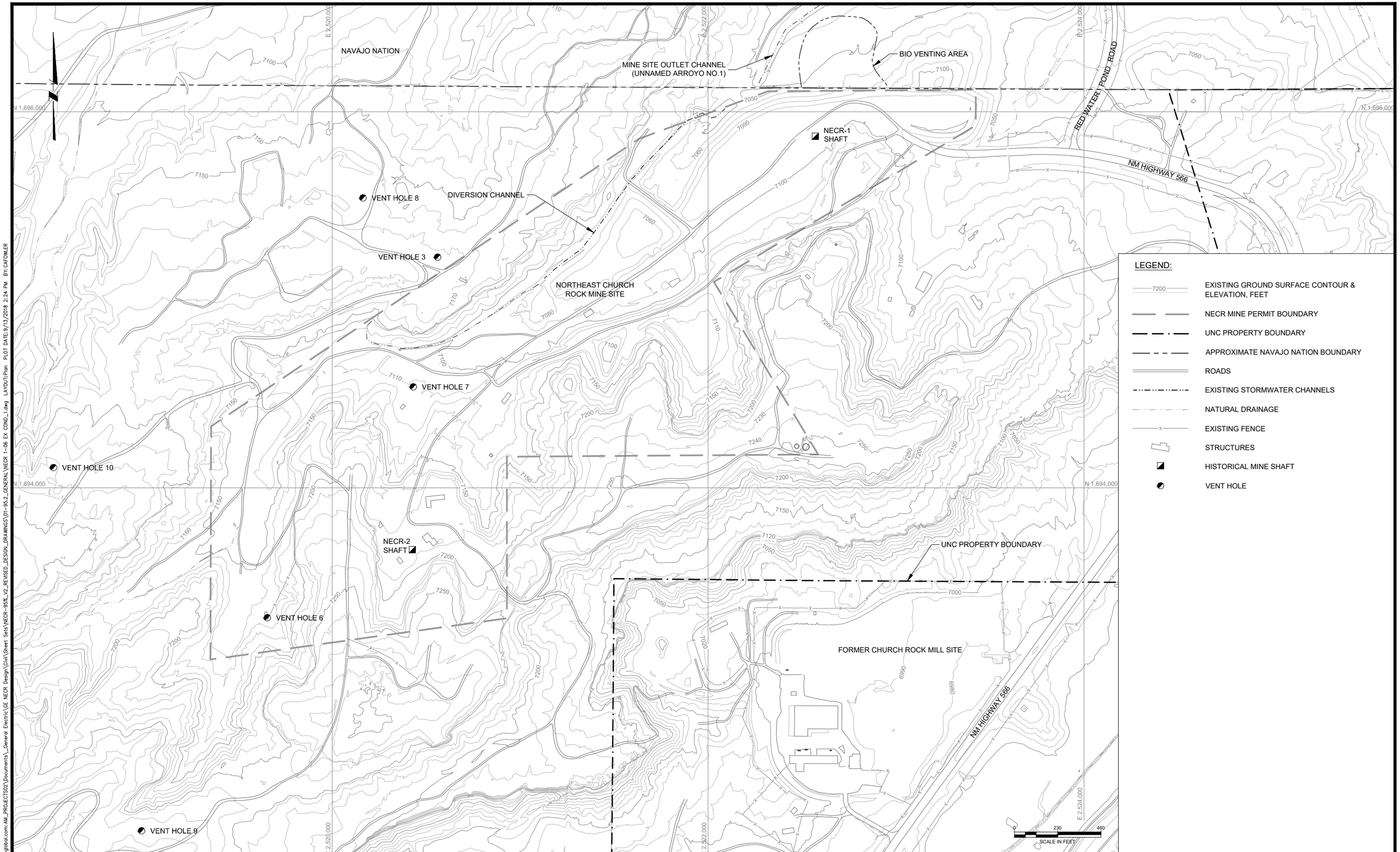

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McKINLEY COUNTY, NEW MEXICO

NORTHEAST CHURCH ROCK PROJECT 30% DESIGN
EXISTING CONDITION NECR MINE SITE

SHEET
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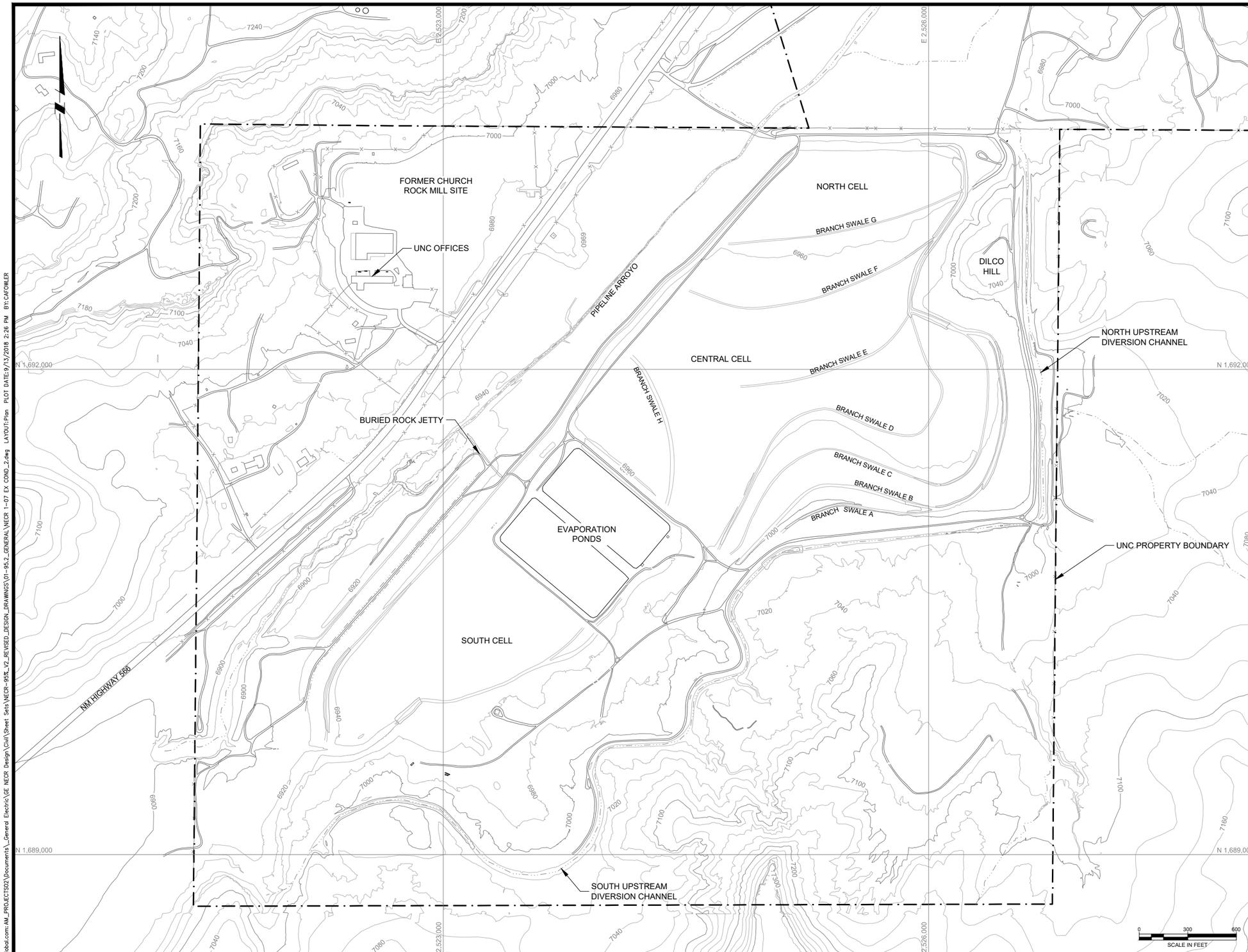

LEGEND:

- 7200 — EXISTING GROUND SURFACE CONTOUR & ELEVATION, FEET
- UNC PROPERTY BOUNDARY
- ROADS
- NATURAL DRAINAGE
- EXISTING FENCE
- STRUCTURES

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NORTHEAST CHURCH ROCK PROJECT 95% DESIGN
EXISTING CONDITION UNC SITE

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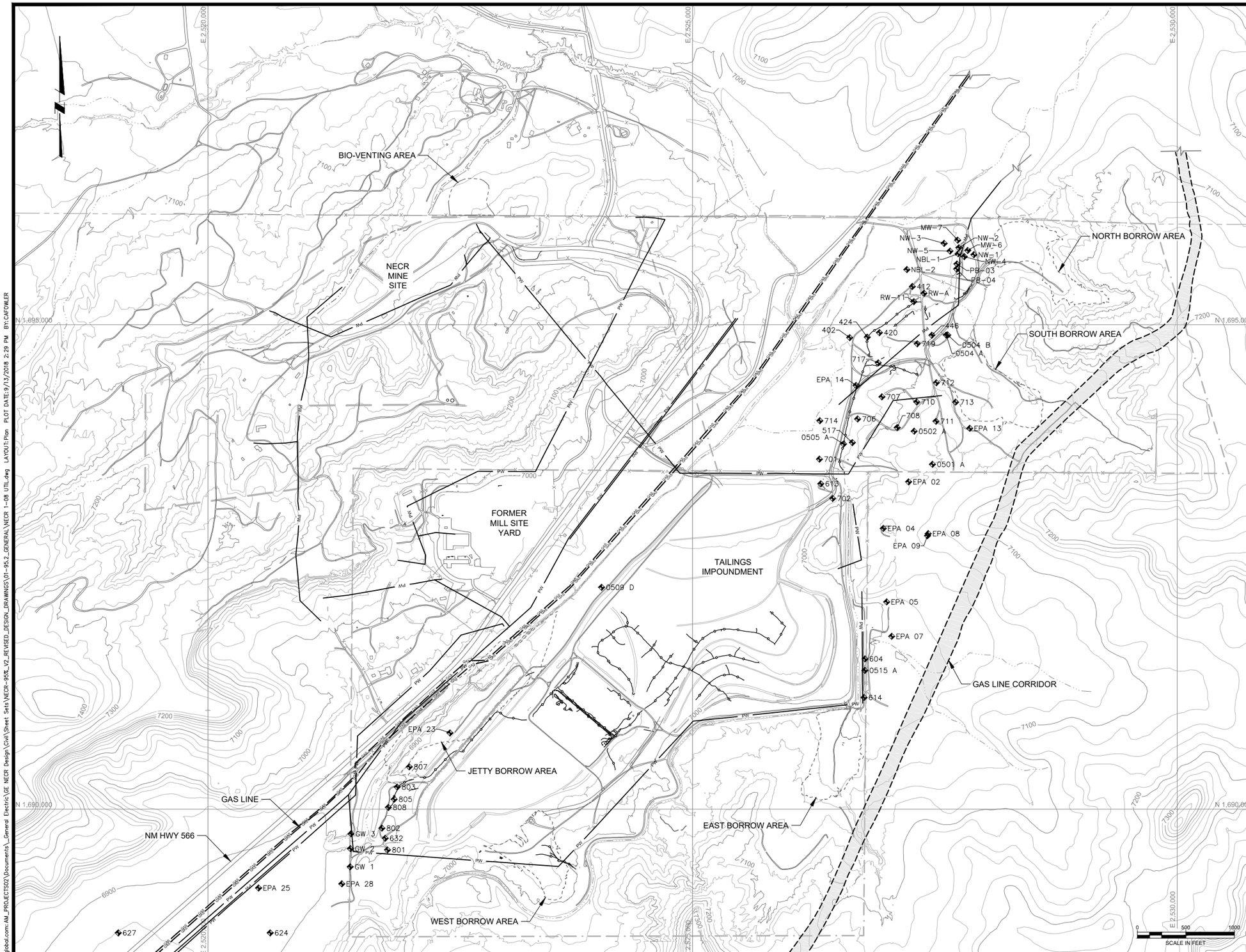

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- APPROXIMATE NAVAJO NATION BOUNDARY
- ROADS
- EXISTING STORMWATER CHANNEL
- NATURAL DRAINAGE
- EXISTING FENCE
- STRUCTURES
- GAS LINE
- GAS LINE CORRIDOR
- OVERHEAD POWER LINES
- PIPELINE
- MONITORING WELL

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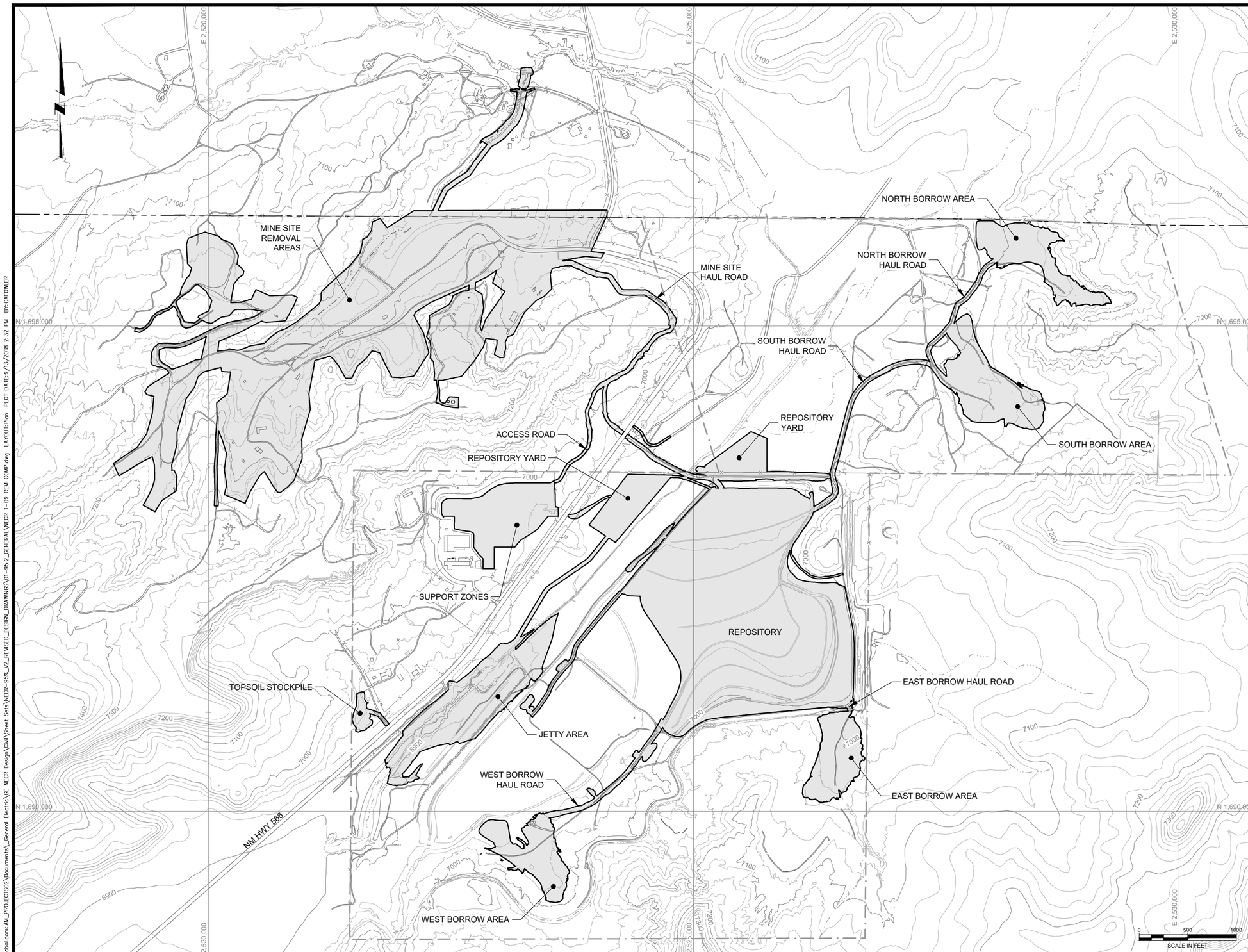

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1-09
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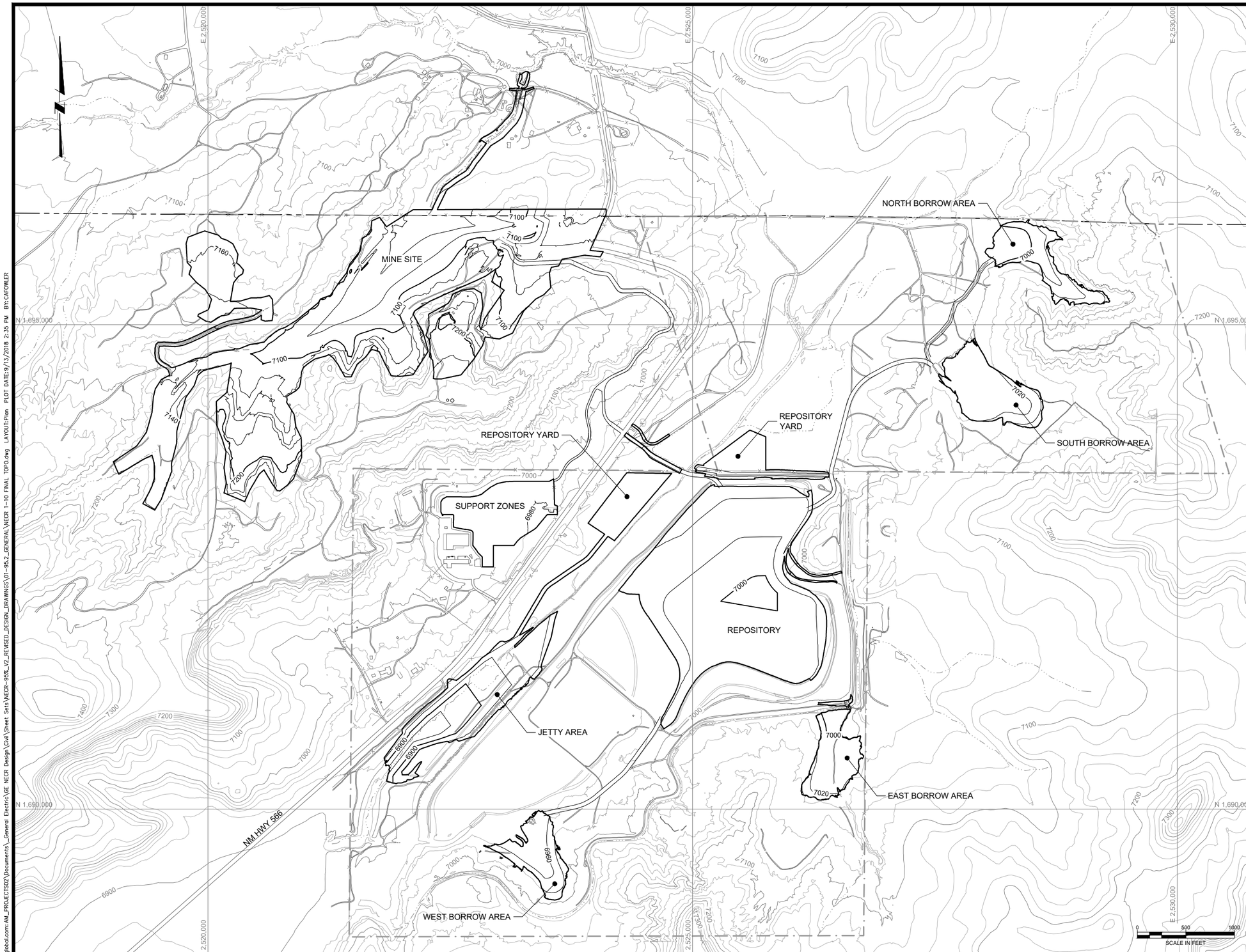

LEGEND:

- 7200 — EXISTING GROUND SURFACE CONTOUR & ELEVATION, FEET
- 7200 — PROPOSED SURFACE CONTOUR & ELEVATION, FEET
- UNC PROPERTY BOUNDARY
- APPROXIMATE NAVAJO NATION BOUNDARY
- EXISTING ROADS
- EXISTING STORMWATER CHANNEL
- NATURAL DRAINAGE
- EXISTING FENCE
- STRUCTURES

NOTE(S):

1. HAUL ROADS TO BE RECLAIMED FOLLOWING CONSTRUCTION.

REV	DATE	BY	DESCRIPTION
D	09/24/18	KR	ISSUED FOR LAR
C	04/09/18	KR	ISSUED FOR REVISED 95% DESIGN
B	10/30/17	KR	ISSUED FOR 95% DESIGN
A	07/15/16	KR	ISSUED FOR 30% DESIGN

DESIGNED K REED
CHECKED M WITLER
APPROVED J CUMBERS

Stantec

UNITED NUCLEAR CORPORATION AND NORTHEAST CHURCH ROCK MINE
McKINLEY COUNTY, NEW MEXICO

NORTHEAST CHURCH ROCK PROJECT 95% DESIGN
FINAL RECLAIMED TOPOGRAPHY

SHEET
1-10
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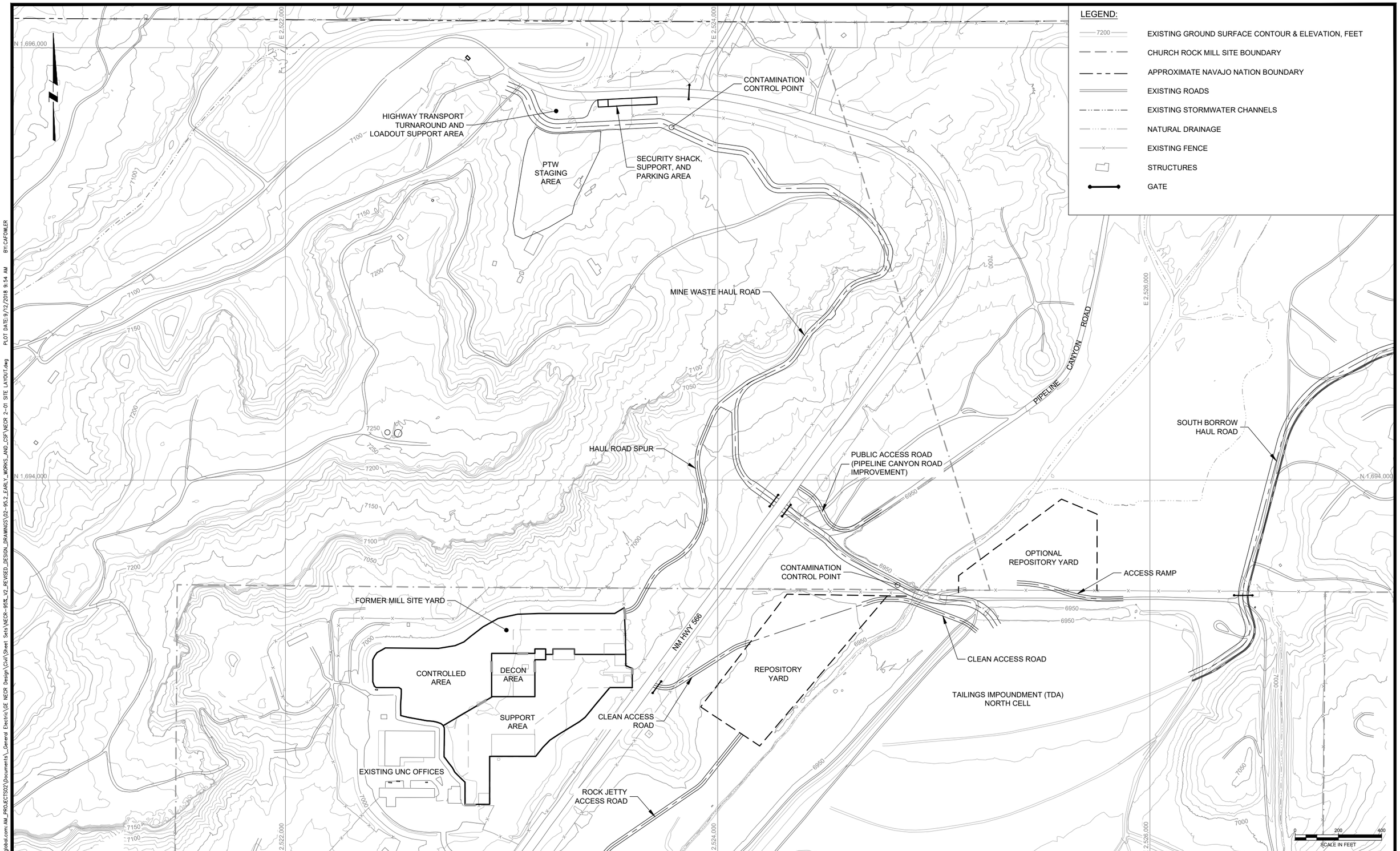

REV	DATE	BY	DESCRIPTION
D	09/24/18	KR	ISSUED FOR LAR
C	04/09/18	KR	ISSUED FOR REVISED 95% DESIGN
B	10/30/17	KR	ISSUED FOR 95% DESIGN
A	07/15/16	KR	ISSUED FOR 30% DESIGN

DESIGNED K REED
CHECKED J COLEMAN
APPROVED J CUMBERS

Stantec

UNITED NUCLEAR CORPORATION AND NORTHEAST CHURCH ROCK MINE
McKINLEY COUNTY, NEW MEXICO

NORTHEAST CHURCH ROCK PROJECT 95% DESIGN
EARLY WORKS AND CONSTRUCTION SUPPORT FACILITIES

SHEET
2-01
233001048

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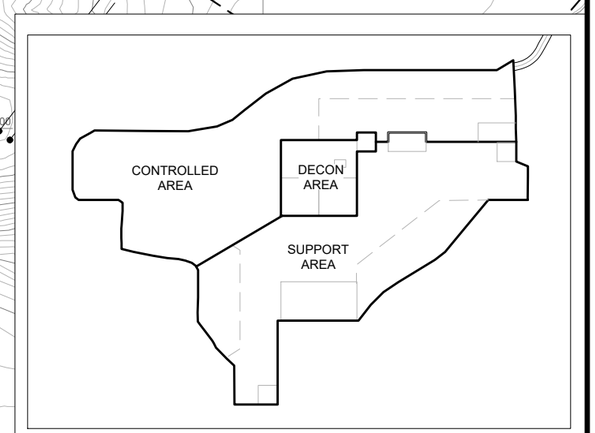
ACCESS ROAD
MILL WELL AND PUMP HOUSE
VEHICLE DECON AREA
YARD AND PARKING
WATER STORAGE
SECURITY SHACK
FUEL FARM
DECON SHACK
CLEAN STORMWATER DIVERSION DITCH
PULL OUT
CONSTRUCTION EQUIPMENT ENTRANCE AND EXIT
FORMER MILL SITE YARD
CREW SCAN
CREW LUNCH ROOM
DECON PAD (ASPHALT)
TRUCK SCALE
ACCESS ROAD
REPOSITORY YARD
PRIMARY ENTRANCE
SUPPORT AREA
CONTRACTOR YARD
PARKING
CONSTRUCTION OFFICES
SITE BOUNDARY
SECURITY SHACK
UNC OFFICES
NM HWY 566
ROCK JETTY ACCESS ROAD
CONSTRUCTION ENTRANCE
CONSTRUCTION CREW AND VISITOR ENTRANCE / EXIT
N 1,692,800
E 2,522,400
E 2,523,200
E 2,524,000
SCALE IN FEET



KEY
NOT TO SCALE

LEGEND:

- EXISTING GROUND SURFACE CONTOUR & ELEVATION, FEET
- CHURCH ROCK MILL SITE BOUNDARY
- EXISTING ROADS
- NATURAL DRAINAGE
- EXISTING FENCE
- FENCE
- STRUCTURES
- GATE LOCATION
- GATE
- STORMWATER POND
- GRAVEL SURFACING
- CULVERT
- OVERHEAD POWER LINES

REV	DATE	BY	DESCRIPTION
D	09/24/18	KR	ISSUED FOR LAR
C	04/09/18	KR	ISSUED FOR REVISED 95% DESIGN
B	10/30/17	KR	ISSUED FOR 95% DESIGN
A	07/15/16	KR	ISSUED FOR 30% DESIGN

DESIGNED K REED
CHECKED J COLEMAN
APPROVED J CUMBERS

Stantec

UNITED NUCLEAR CORPORATION AND NORTHEAST CHURCH ROCK MINE
McKINLEY COUNTY, NEW MEXICO

NORTHEAST CHURCH ROCK PROJECT 95% DESIGN
FORMER MILL SITE YARD

SHEET
2-02
233001048

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LEGEND:

- EXISTING GROUND SURFACE CONTOUR & ELEVATION, FEET
- CHURCH ROCK MILL SITE BOUNDARY
- EXISTING ROADS
- NATURAL DRAINAGE
- EXISTING FENCE
- PROPOSED FENCE
- STRUCTURES
- CULVERT
- GATE

MINE WASTE HAUL ROAD
DRAINAGE DITCH
NM HWY 566
PIPELINE CANYON ROAD
PIPELINE ARROYO
TEMPORARY GATES
NEW TEMPORARY ACCESS TO PIPELINE CANYON ROAD
MUD GRATES
HAUL ROAD SPUR
MUD GRATES
EXISTING GATE (ACCESS CONTROL RESTRICTED AREA)
OPTIONAL REPOSITORY YARD
DIVERSION DITCH
SEPARATION FENCE
ACCESS RAMP
SOUTH BORROW HAUL ROAD CENTERLINE
NORTH CELL DRAINAGE CHANNEL
CONTAMINATION CONTROL POINT (SEE SECTION 4 DRAWINGS)
CLEAN ACCESS ROAD
TO REPOSITORY
CONTAMINATED VEHICLE TRAFFIC
CLEAN VEHICLE TRAFFIC
CLEAN ACCESS ROAD
REPOSITORY YARD
TAILINGS IMPOUNDMENT (TDA) NORTH CELL

E 2,524,000 E 2,525,000 E 2,526,000
N 1,694,000 N 1,693,000

0 100 200
SCALE IN FEET

REV	DATE	BY	DESCRIPTION
D	09/24/18	KR	ISSUED FOR LAR
C	04/09/18	KR	ISSUED FOR REVISED 95% DESIGN
B	10/30/17	KR	ISSUED FOR 95% DESIGN
A	07/15/16	KR	ISSUED FOR 30% DESIGN

DESIGNED K REED
CHECKED J COLEMAN
APPROVED J CUMBERS

Stantec

UNITED NUCLEAR CORPORATION AND NORTHEAST CHURCH ROCK MINE
McKINLEY COUNTY, NEW MEXICO

NORTHEAST CHURCH ROCK PROJECT 95% DESIGN
REPOSITORY YARDS

SHEET
2-03
233001048

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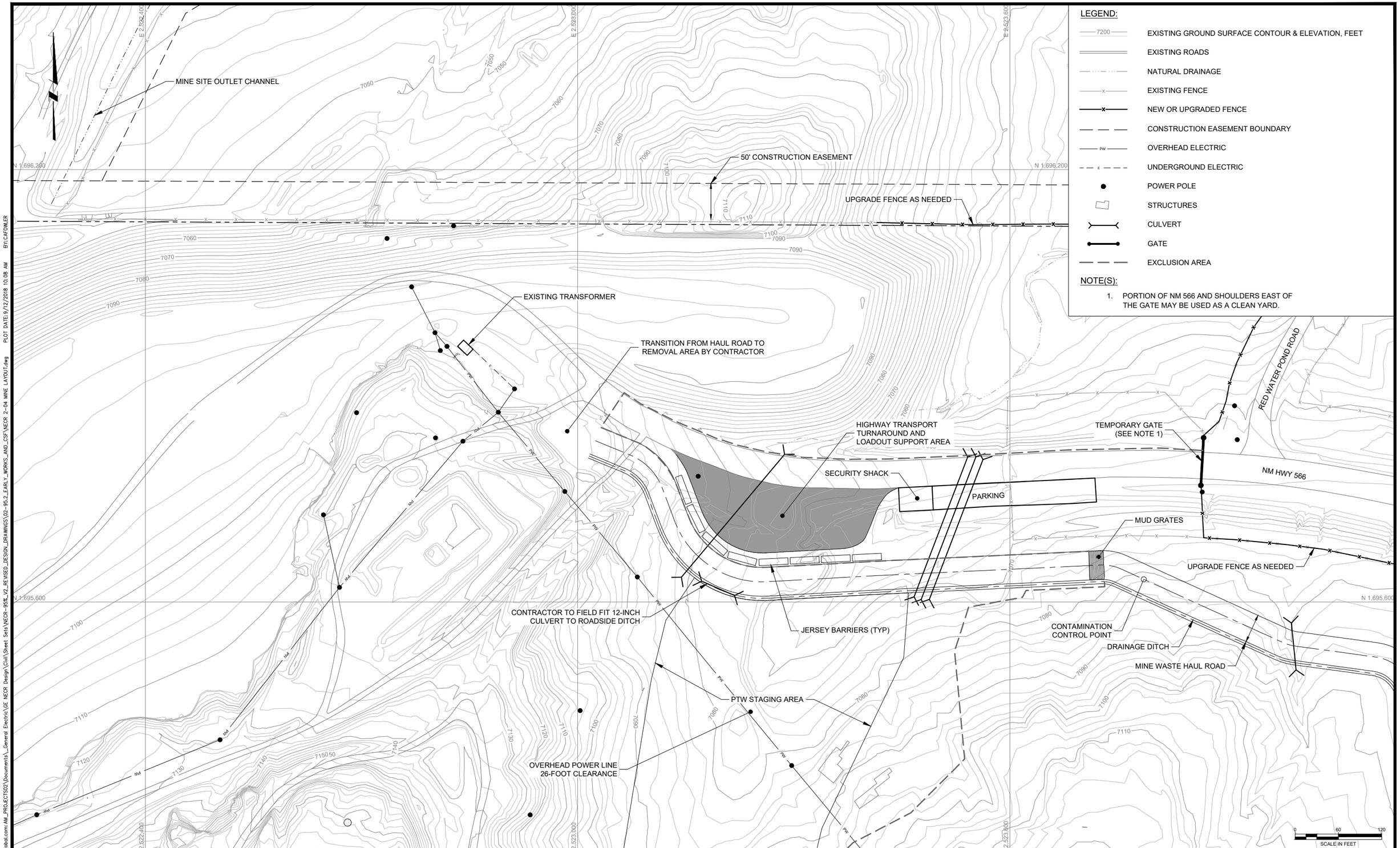

LEGEND:

- EXISTING GROUND SURFACE CONTOUR & ELEVATION, FEET
- EXISTING ROADS
- NATURAL DRAINAGE
- EXISTING FENCE
- NEW OR UPGRADED FENCE
- CONSTRUCTION EASEMENT BOUNDARY
- OVERHEAD ELECTRIC
- UNDERGROUND ELECTRIC
- POWER POLE
- STRUCTURES
- CULVERT
- GATE
- EXCLUSION AREA

NOTE(S):

1. PORTION OF NM 566 AND SHOULDERS EAST OF THE GATE MAY BE USED AS A CLEAN YARD.

REV	DATE	BY	DESCRIPTION
D	09/24/18	KR	ISSUED FOR LAR
C	04/09/18	KR	ISSUED FOR REVISED 95% DESIGN
B	10/30/17	KR	ISSUED FOR 95% DESIGN
A	07/15/16	KR	ISSUED FOR 30% DESIGN

DESIGNED K REED
CHECKED J COLEMAN
APPROVED J CUMBERS

Stantec

UNITED NUCLEAR CORPORATION AND NORTHEAST CHURCH ROCK MINE
McKINLEY COUNTY, NEW MEXICO

NORTHEAST CHURCH ROCK PROJECT 95% DESIGN
MINE SITE YARD

SHEET
2-04
233001048

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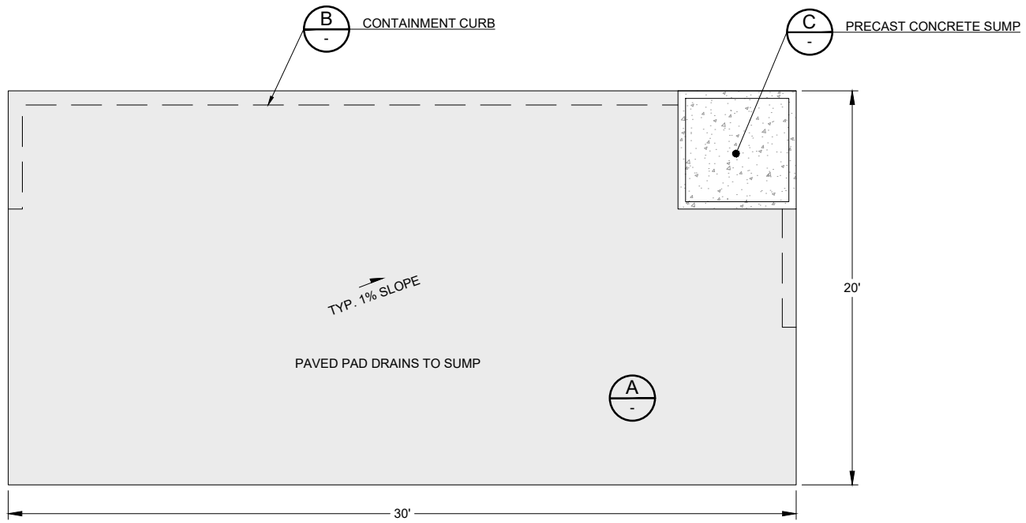
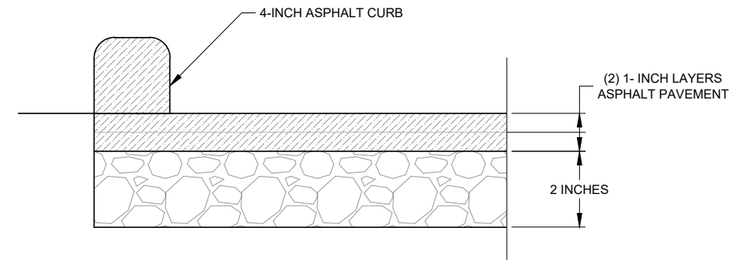
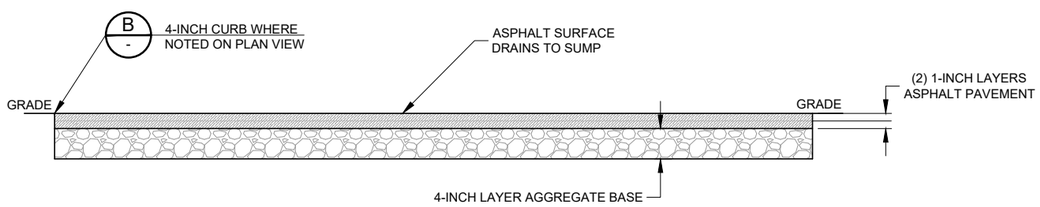


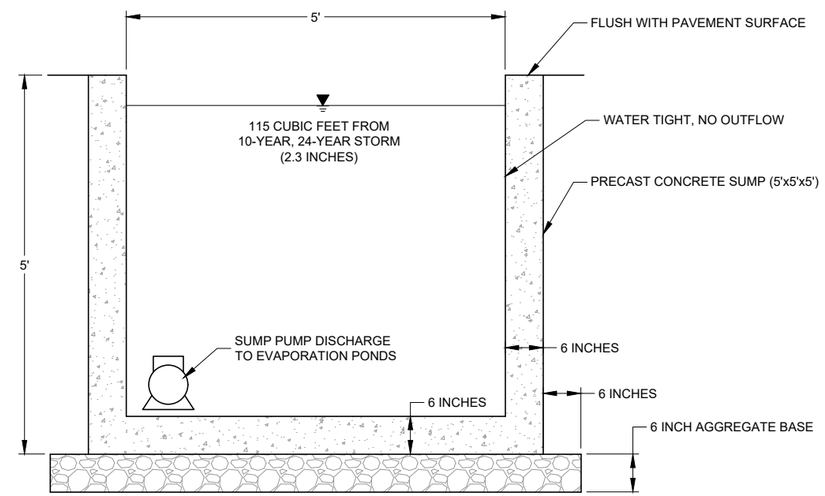
1 / 2-05 ASPHALT DECON PAD DETAIL - PLAN VIEW
NOT TO SCALE



B / - CURB DETAIL
NOT TO SCALE



A / - DECON PAD DETAIL
NOT TO SCALE



C / - PRECAST CONCRETE SUMP
NOT TO SCALE

REV	DATE	BY	DESCRIPTION
C	04/09/18	KR	ISSUED FOR REVISED 95% DESIGN
B	10/30/17	KR	ISSUED FOR 95% DESIGN
A	07/15/16	KR	ISSUED FOR 30% DESIGN

DESIGNED K REED
CHECKED J COLEMAN
APPROVED J CUMBERS

Stantec

UNITED NUCLEAR CORPORATION AND NORTHEAST CHURCH ROCK MINE
McKINLEY COUNTY, NEW MEXICO

NORTHEAST CHURCH ROCK PROJECT 95% DESIGN
DETAILS

SHEET
2-05
233001048

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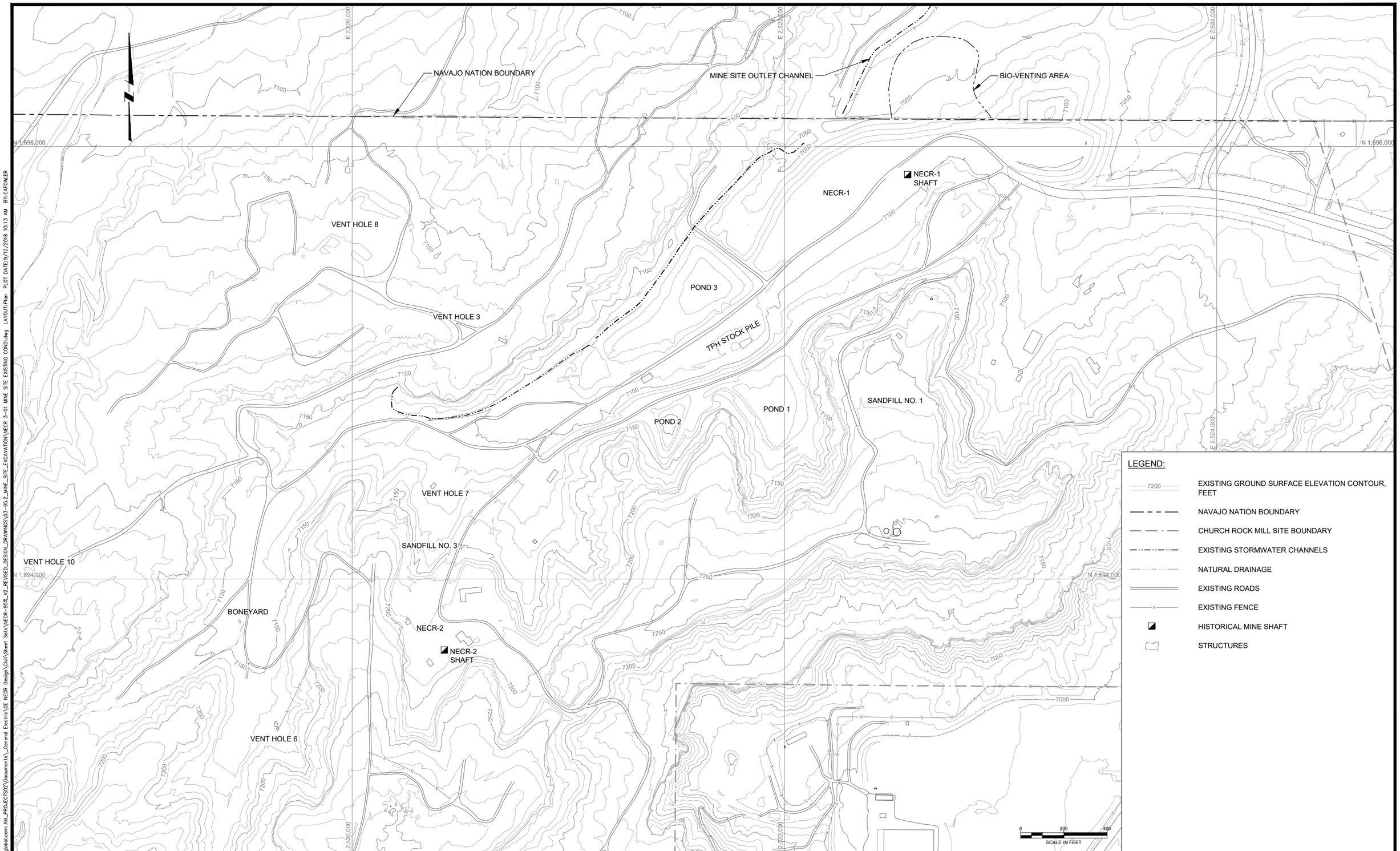

REV	DATE	BY	DESCRIPTION
D	09/24/18	KR	ISSUED FOR LAR
C	04/09/18	KR	ISSUED FOR REVISED 95% DESIGN
B	10/30/17	KR	ISSUED FOR 95% DESIGN
A	07/15/16	KR	ISSUED FOR 30% DESIGN

DESIGNED K REED
CHECKED M WITLER
APPROVED J CUMBERS

Stantec

UNITED NUCLEAR CORPORATION AND NORTHEAST CHURCH ROCK MINE
McKINLEY COUNTY, NEW MEXICO
NORTHEAST CHURCH ROCK PROJECT 95% DESIGN
MINE SITE REMOVAL EXCAVATIONS AND DEMOLITION
EXISTING CONDITION

SHEET
3-01
233001048

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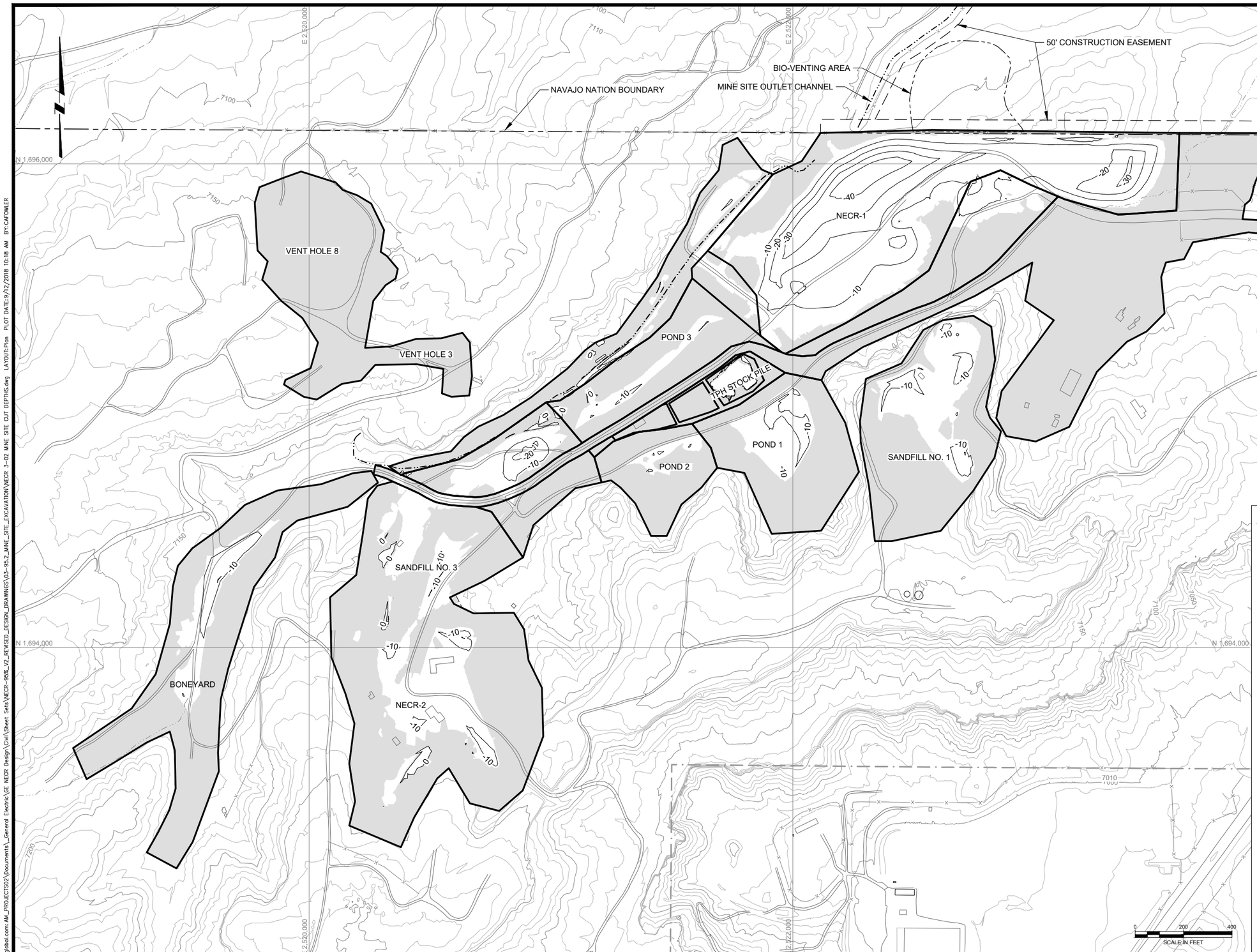


LEGEND:

- 7200 — EXISTING GROUND SURFACE ELEVATION CONTOUR, FEET
- -10 — IMPACTED MATERIALS EXCAVATION DEPTH CONTOUR, FEET
- NAVAJO NATION BOUNDARY
- CHURCH ROCK MILL SITE BOUNDARY
- REMOVAL BOUNDARY
- SURFACE REMOVAL (1 FOOT OR LESS)
- EXISTING STORMWATER CHANNELS
- NATURAL DRAINAGE
- EXISTING ROADS
- EXISTING FENCE
- CONSTRUCTION EASEMENT BOUNDARY
- STRUCTURES

REV	DATE	BY	DESCRIPTION
D	09/24/18	KR	ISSUED FOR LAR
C	04/09/18	KR	ISSUED FOR REVISED 95% DESIGN
B	10/30/17	KR	ISSUED FOR 95% DESIGN
A	07/15/16	KR	ISSUED FOR 30% DESIGN

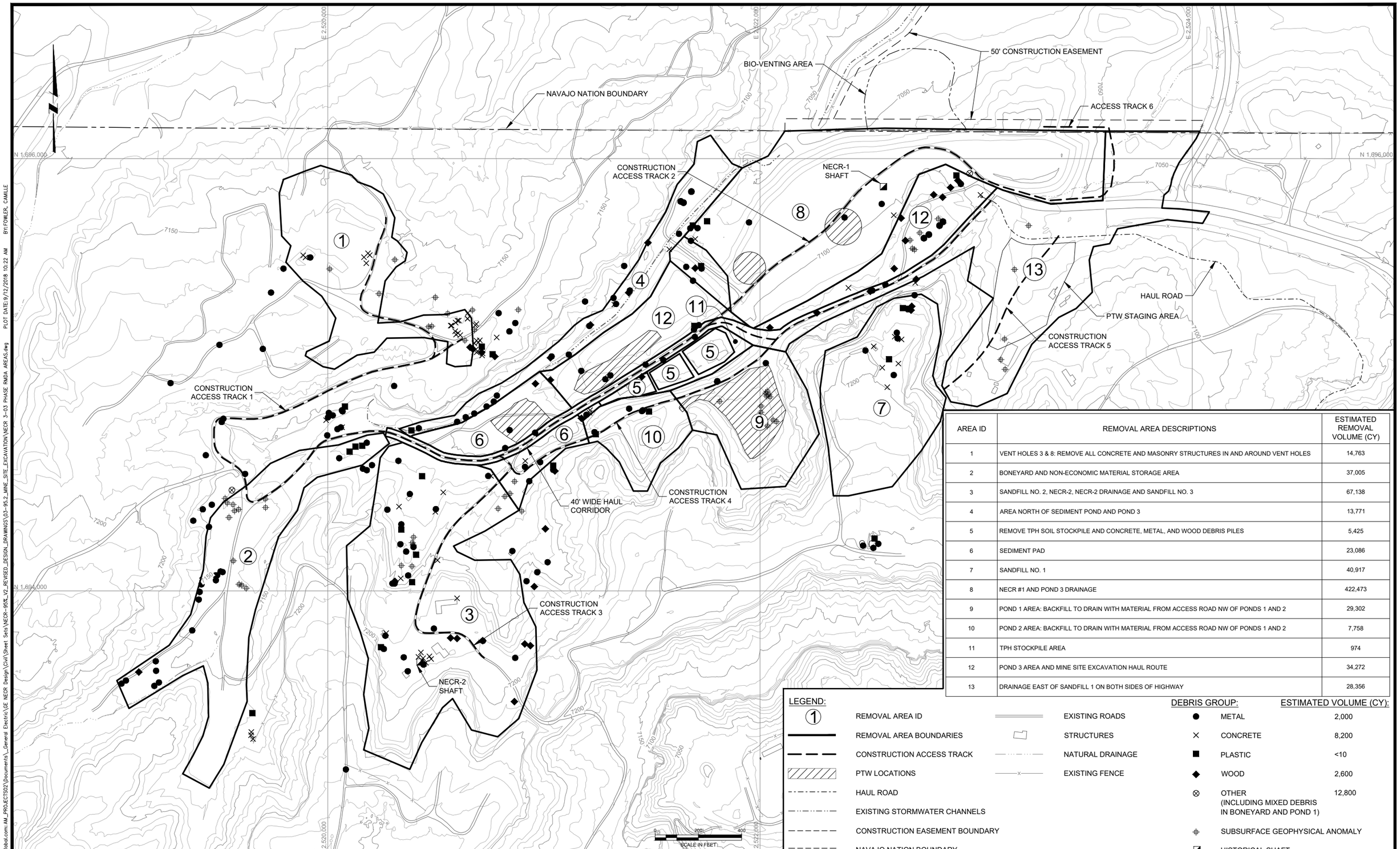
DESIGNED K REED
CHECKED M WITLER
APPROVED J CUMBERS

Stantec

UNITED NUCLEAR CORPORATION AND NORTHEAST CHURCH ROCK MINE
McKINLEY COUNTY, NEW MEXICO
NORTHEAST CHURCH ROCK PROJECT 95% DESIGN
MINE SITE REMOVAL EXCAVATIONS AND DEMOLITION
IMPACTED MATERIAL EXCAVATION DEPTHS - EXISTING GROUND TO NEAT LINE

SHEET
3-02
233001048

pw:\\amerygwint03.mwhglobal.com:AM_PROJECTS02\Documents_General Electric\GE NECR Design\Civil\Sheet Sets\NECR-95%_V2_REVISED_DESIGN_DRAWINGS\03-95.2_MINE_SITE_EXCAVATION\NECR 3-02 MINE SITE CUT DEPTHS.dwg LAYOUT:Plan PLOT DATE:9/12/2018 10:18 AM BY:CAFOWLER



AREA ID	REMOVAL AREA DESCRIPTIONS	ESTIMATED REMOVAL VOLUME (CY)
1	VENT HOLES 3 & 8: REMOVE ALL CONCRETE AND MASONRY STRUCTURES IN AND AROUND VENT HOLES	14,763
2	BONEYARD AND NON-ECONOMIC MATERIAL STORAGE AREA	37,005
3	SANDFILL NO. 2, NECR-2, NECR-2 DRAINAGE AND SANDFILL NO. 3	67,138
4	AREA NORTH OF SEDIMENT POND AND POND 3	13,771
5	REMOVE TPH SOIL STOCKPILE AND CONCRETE, METAL, AND WOOD DEBRIS PILES	5,425
6	SEDIMENT PAD	23,086
7	SANDFILL NO. 1	40,917
8	NECR #1 AND POND 3 DRAINAGE	422,473
9	POND 1 AREA: BACKFILL TO DRAIN WITH MATERIAL FROM ACCESS ROAD NW OF PONDS 1 AND 2	29,302
10	POND 2 AREA: BACKFILL TO DRAIN WITH MATERIAL FROM ACCESS ROAD NW OF PONDS 1 AND 2	7,758
11	TPH STOCKPILE AREA	974
12	POND 3 AREA AND MINE SITE EXCAVATION HAUL ROUTE	34,272
13	DRAINAGE EAST OF SANDFILL 1 ON BOTH SIDES OF HIGHWAY	28,356

LEGEND:

- (1) REMOVAL AREA ID
- REMOVAL AREA BOUNDARIES
- CONSTRUCTION ACCESS TRACK
- PTW LOCATIONS
- HAUL ROAD
- EXISTING STORMWATER CHANNELS
- CONSTRUCTION EASEMENT BOUNDARY
- NAVAJO NATION BOUNDARY
- EXISTING ROADS
- STRUCTURES
- NATURAL DRAINAGE
- EXISTING FENCE

DEBRIS GROUP:	ESTIMATED VOLUME (CY):
METAL	2,000
CONCRETE	8,200
PLASTIC	<10
WOOD	2,600
OTHER (INCLUDING MIXED DEBRIS IN BONEYARD AND POND 1)	12,800
SUBSURFACE GEOPHYSICAL ANOMALY	
HISTORICAL SHAFT	

REV	DATE	BY	DESCRIPTION
D	09/24/18	KR	ISSUED FOR LAR
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A	07/15/16	KR	ISSUED FOR 30% DESIGN

DESIGNED K REED
CHECKED M WITLER
APPROVED J CUMBERS

Stantec

UNITED NUCLEAR CORPORATION AND NORTHEAST CHURCH ROCK MINE
McKINLEY COUNTY, NEW MEXICO
NORTHEAST CHURCH ROCK PROJECT 95% DESIGN
MINE SITE REMOVAL EXCAVATIONS AND DEMOLITION
REMOVAL AREAS AND DEBRIS MAP

SHEET 3-03

233001048

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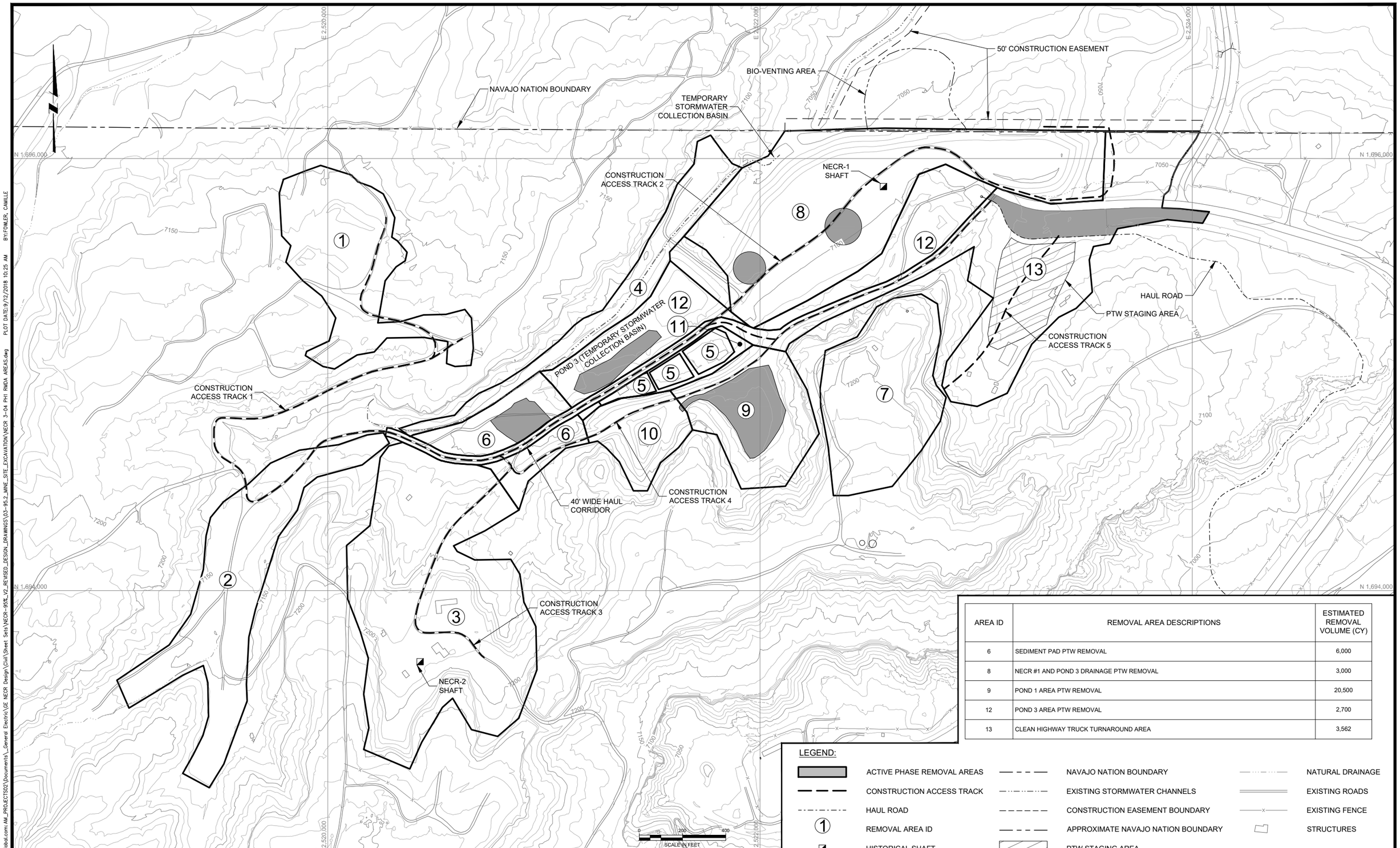


AREA ID	REMOVAL AREA DESCRIPTIONS	ESTIMATED REMOVAL VOLUME (CY)
6	SEDIMENT PAD PTW REMOVAL	6,000
8	NECR #1 AND POND 3 DRAINAGE PTW REMOVAL	3,000
9	POND 1 AREA PTW REMOVAL	20,500
12	POND 3 AREA PTW REMOVAL	2,700
13	CLEAN HIGHWAY TRUCK TURNAROUND AREA	3,562

LEGEND:

- ACTIVE PHASE REMOVAL AREAS
- CONSTRUCTION ACCESS TRACK
- HAUL ROAD
- 1 REMOVAL AREA ID
- HISTORICAL SHAFT
- NAVAJO NATION BOUNDARY
- EXISTING STORMWATER CHANNELS
- CONSTRUCTION EASEMENT BOUNDARY
- APPROXIMATE NAVAJO NATION BOUNDARY
- PTW STAGING AREA
- NATURAL DRAINAGE
- EXISTING ROADS
- EXISTING FENCE
- STRUCTURES

REV	DATE	BY	DESCRIPTION
D	09/24/18	KR	ISSUED FOR LAR
C	04/09/18	KR	ISSUED FOR REVISED 95% DESIGN
B	10/30/17	KR	ISSUED FOR 95% DESIGN
A	07/15/16	KR	ISSUED FOR 30% DESIGN

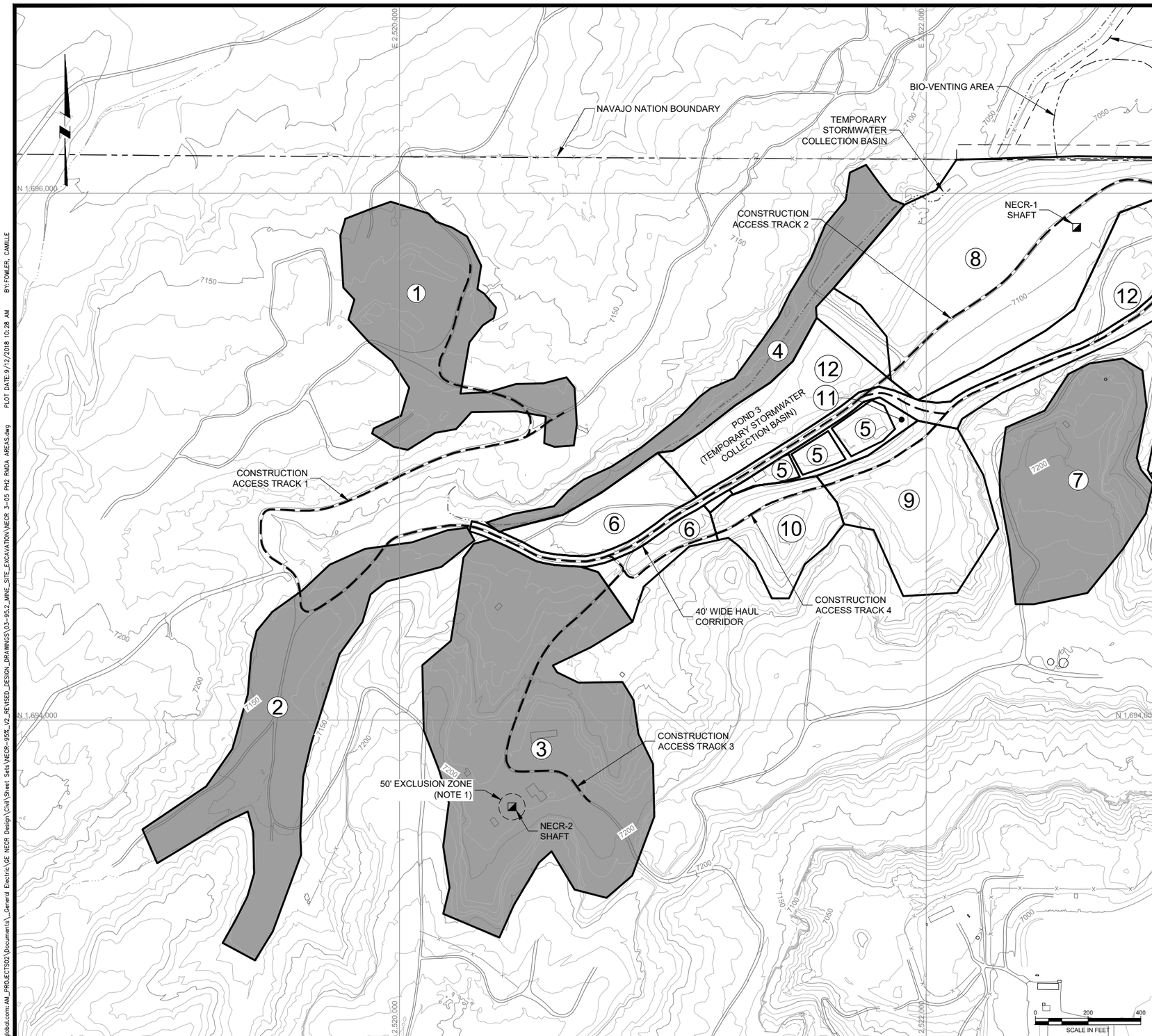
DESIGNED K REED
CHECKED M WITLER
APPROVED J CUMBERS

Stantec

UNITED NUCLEAR CORPORATION AND NORTHEAST CHURCH ROCK MINE
McKINLEY COUNTY, NEW MEXICO
NORTHEAST CHURCH ROCK PROJECT 95% DESIGN
MINE SITE REMOVAL EXCAVATIONS AND DEMOLITION
PHASE 1 REMOVAL AREAS - PRINCIPAL THREAT WASTE AND LOADOUT

SHEET
3-04
233001048

pw:\\amerpwint03.mwkglobal.com:AM_PROJECTS02\Documents_General Electric\GE NECR Design\Civil\Sheet Sets\NECR-95%_V2_REVISED_DESIGN_DRAWINGS\03-95.2_MINE_SITE_EXCAVATION\NECR 3-04 PH1 RMDA AREAS.dwg PLOT DATE:9/12/2018 10:25 AM BY:FOWLER, CAMILLE



NOTE(S):

1. 50-FOOT EXCLUSION ZONE REQUIRED AROUND NECR-2 SHAFT FOR SAFETY.

AREA ID	REMOVAL AREA DESCRIPTIONS	ESTIMATED REMOVAL VOLUME (CY)
1	VENT HOLES 3 & 8: REMOVE ALL CONCRETE AND MASONRY STRUCTURES IN AND AROUND VENT HOLES	14,763
2	BONEYARD AND NON-ECONOMIC MATERIAL STORAGE AREA	37,005
3	SANDFILL NO. 2, NECR-2, NECR-2 DRAINAGE AND SANDFILL NO. 3	67,138
4	AREA NORTH OF SEDIMENT POND AND POND 3	13,771
7	SANDFILL NO. 1	40,917

LEGEND:

- REMOVAL COMPLETE
- ACTIVE PHASE REMOVAL AREAS
- CONSTRUCTION ACCESS TRACK
- HAUL ROAD
- 1 REMOVAL AREA ID
- PTW STAGING AREA
- CONSTRUCTION EASEMENT BOUNDARY
- NAVAJO NATION BOUNDARY
- EXISTING STORMWATER CHANNELS
- NATURAL DRAINAGE
- EXISTING ROADS
- EXISTING FENCE
- APPROXIMATE NAVAJO NATION BOUNDARY
- HISTORICAL SHAFT
- STRUCTURES

REV	DATE	BY	DESCRIPTION
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C	04/09/18	KR	ISSUED FOR REVISED 95% DESIGN
B	10/30/17	KR	ISSUED FOR 95% DESIGN
A	07/15/16	KR	ISSUED FOR 30% DESIGN

DESIGNED K REED
CHECKED M WITLER
APPROVED J CUMBERS

Stantec

UNITED NUCLEAR CORPORATION AND NORTHEAST CHURCH ROCK MINE
McKINLEY COUNTY, NEW MEXICO
NORTHEAST CHURCH ROCK PROJECT 95% DESIGN
MINE SITE REMOVAL EXCAVATIONS AND DEMOLITION
PHASE 2 REMOVAL AREAS

SHEET 3-05

233001048

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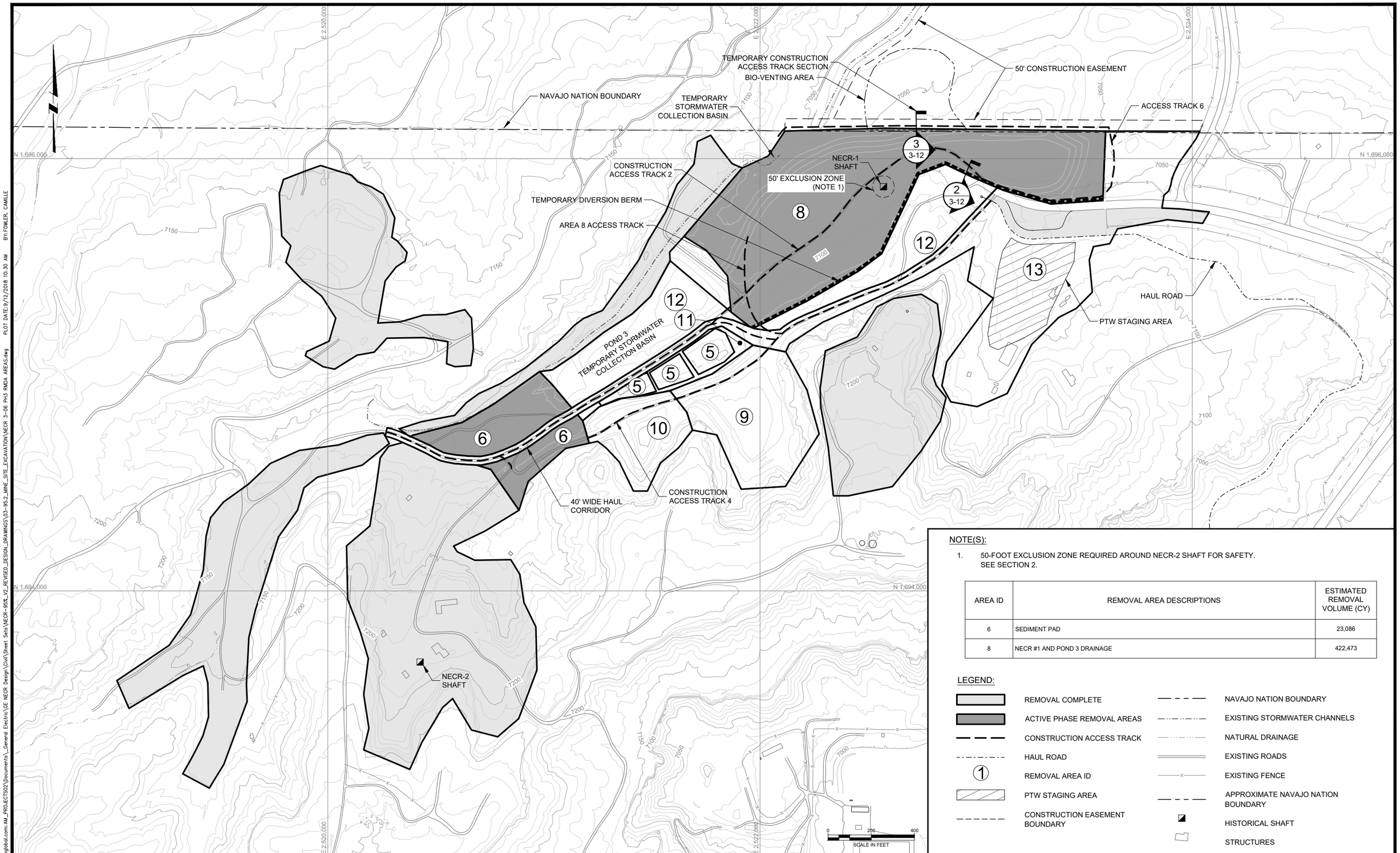

NOTE(S):

1. 50-FOOT EXCLUSION ZONE REQUIRED AROUND NECR-2 SHAFT FOR SAFETY. SEE SECTION 2.

AREA ID	REMOVAL AREA DESCRIPTIONS	ESTIMATED REMOVAL VOLUME (CY)
6	SEDIMENT PAD	23,086
8	NECR #1 AND POND 3 DRAINAGE	422,473

LEGEND:

- REMOVAL COMPLETE
- ACTIVE PHASE REMOVAL AREAS
- CONSTRUCTION ACCESS TRACK
- HAUL ROAD
- REMOVAL AREA ID
- PTW STAGING AREA
- CONSTRUCTION EASEMENT BOUNDARY
- NAVAJO NATION BOUNDARY
- EXISTING STORMWATER CHANNELS
- NATURAL DRAINAGE
- EXISTING ROADS
- EXISTING FENCE
- APPROXIMATE NAVAJO NATION BOUNDARY
- HISTORICAL SHAFT
- STRUCTURES

REV	DATE	BY	DESCRIPTION
D	09/24/18	KR	ISSUED FOR LAR
C	04/09/18	KR	ISSUED FOR REVISED 95% DESIGN
B	10/30/17	KR	ISSUED FOR 95% DESIGN
A	07/15/16	KR	ISSUED FOR 30% DESIGN

DESIGNED K REED
CHECKED M WITLER
APPROVED J CUMBERS

Stantec

UNITED NUCLEAR CORPORATION AND NORTHEAST CHURCH ROCK MINE
McKINLEY COUNTY, NEW MEXICO
NORTHEAST CHURCH ROCK PROJECT 95% DESIGN
MINE SITE REMOVAL EXCAVATIONS AND DEMOLITION
PHASE 3 REMOVAL AREAS

SHEET
3-06
233001048

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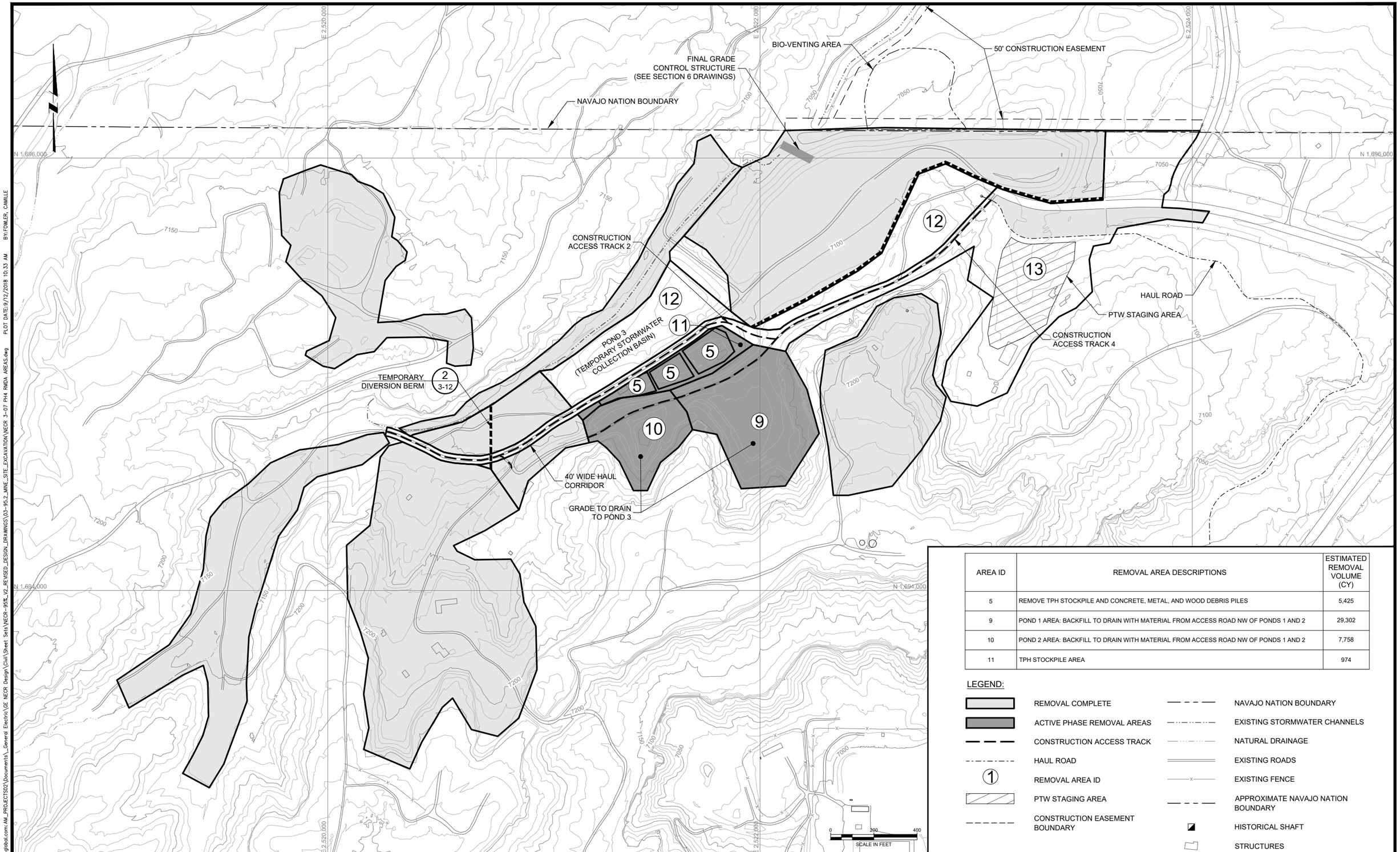

AREA ID	REMOVAL AREA DESCRIPTIONS	ESTIMATED REMOVAL VOLUME (CY)
5	REMOVE TPH STOCKPILE AND CONCRETE, METAL, AND WOOD DEBRIS PILES	5,425
9	POND 1 AREA: BACKFILL TO DRAIN WITH MATERIAL FROM ACCESS ROAD NW OF PONDS 1 AND 2	29,302
10	POND 2 AREA: BACKFILL TO DRAIN WITH MATERIAL FROM ACCESS ROAD NW OF PONDS 1 AND 2	7,758
11	TPH STOCKPILE AREA	974

LEGEND:

- REMOVAL COMPLETE
- ACTIVE PHASE REMOVAL AREAS
- CONSTRUCTION ACCESS TRACK
- HAUL ROAD
- 1 REMOVAL AREA ID
- PTW STAGING AREA
- CONSTRUCTION EASEMENT BOUNDARY
- NAVAJO NATION BOUNDARY
- EXISTING STORMWATER CHANNELS
- NATURAL DRAINAGE
- EXISTING ROADS
- EXISTING FENCE
- APPROXIMATE NAVAJO NATION BOUNDARY
- HISTORICAL SHAFT
- STRUCTURES

REV	DATE	BY	DESCRIPTION
D	09/24/18	KR	ISSUED FOR LAR
C	04/09/18	KR	ISSUED FOR REVISED 95% DESIGN
B	10/30/17	KR	ISSUED FOR 95% DESIGN
A	07/15/16	KR	ISSUED FOR 30% DESIGN

DESIGNED K REED
CHECKED M WITLER
APPROVED J CUMBERS

Stantec

UNITED NUCLEAR CORPORATION AND NORTHEAST CHURCH ROCK MINE
McKINLEY COUNTY, NEW MEXICO
NORTHEAST CHURCH ROCK PROJECT 95% DESIGN
MINE SITE REMOVAL EXCAVATIONS AND DEMOLITION
PHASE 4 REMOVAL AREAS

SHEET
3-07
233001048

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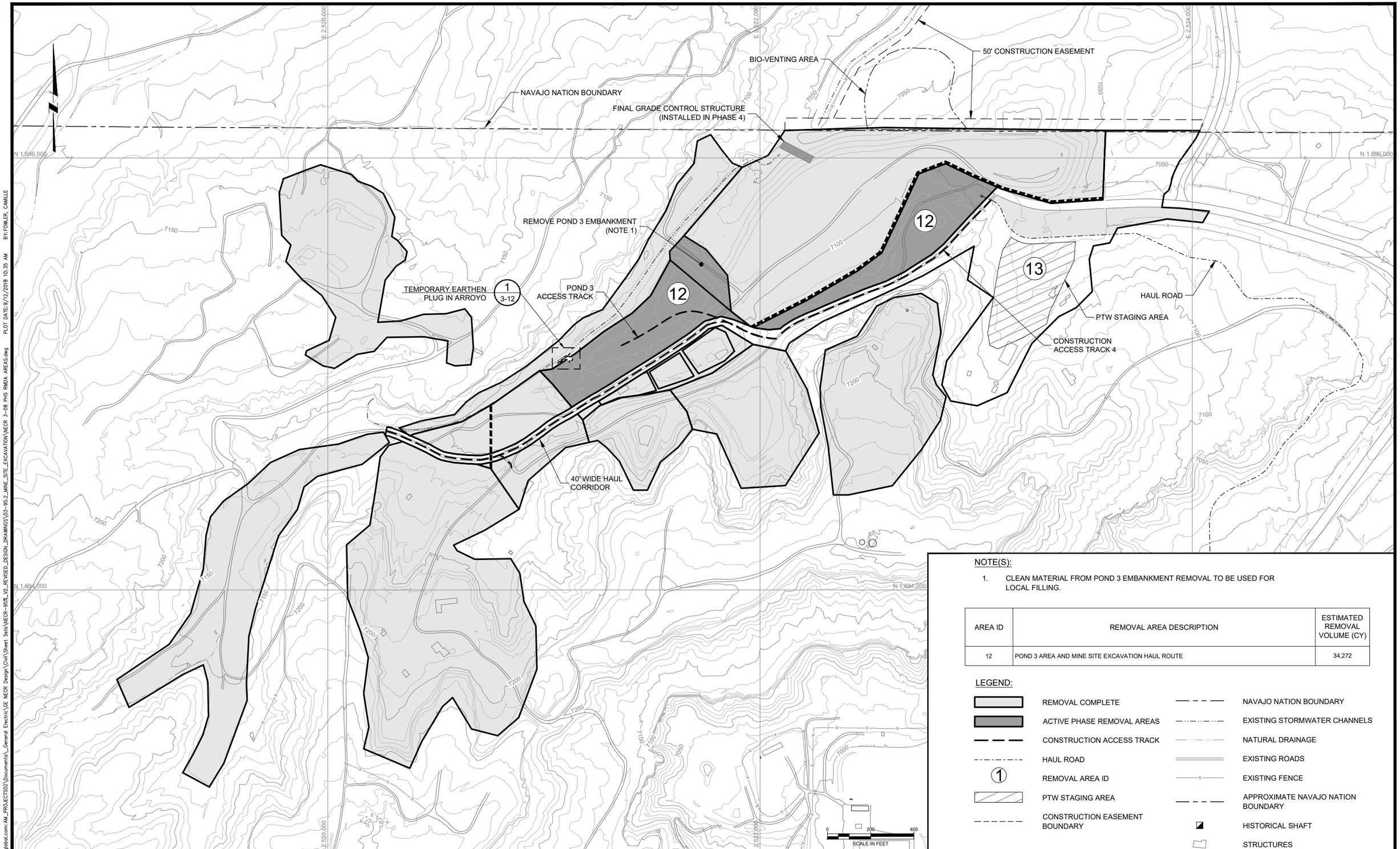

NOTE(S):

1. CLEAN MATERIAL FROM POND 3 EMBANKMENT REMOVAL TO BE USED FOR LOCAL FILLING.

AREA ID	REMOVAL AREA DESCRIPTION	ESTIMATED REMOVAL VOLUME (CY)
12	POND 3 AREA AND MINE SITE EXCAVATION HAUL ROUTE	34,272

LEGEND:

- REMOVAL COMPLETE
- ACTIVE PHASE REMOVAL AREAS
- CONSTRUCTION ACCESS TRACK
- HAUL ROAD
- 1 REMOVAL AREA ID
- PTW STAGING AREA
- CONSTRUCTION EASEMENT BOUNDARY
- NAVAJO NATION BOUNDARY
- EXISTING STORMWATER CHANNELS
- NATURAL DRAINAGE
- EXISTING ROADS
- EXISTING FENCE
- APPROXIMATE NAVAJO NATION BOUNDARY
- HISTORICAL SHAFT
- STRUCTURES

REV	DATE	BY	DESCRIPTION
D	09/24/18	KR	ISSUED FOR LAR
C	04/09/18	KR	ISSUED FOR REVISED 95% DESIGN
B	10/30/17	KR	ISSUED FOR 95% DESIGN
A	07/15/16	KR	ISSUED FOR 30% DESIGN

DESIGNED K REED
CHECKED M WITLER
APPROVED J CUMBERS

Stantec

UNITED NUCLEAR CORPORATION AND NORTHEAST CHURCH ROCK MINE
McKINLEY COUNTY, NEW MEXICO
NORTHEAST CHURCH ROCK PROJECT 95% DESIGN
MINE SITE REMOVAL EXCAVATIONS AND DEMOLITION
PHASE 5 REMOVAL AREAS

SHEET
3-08
233001048

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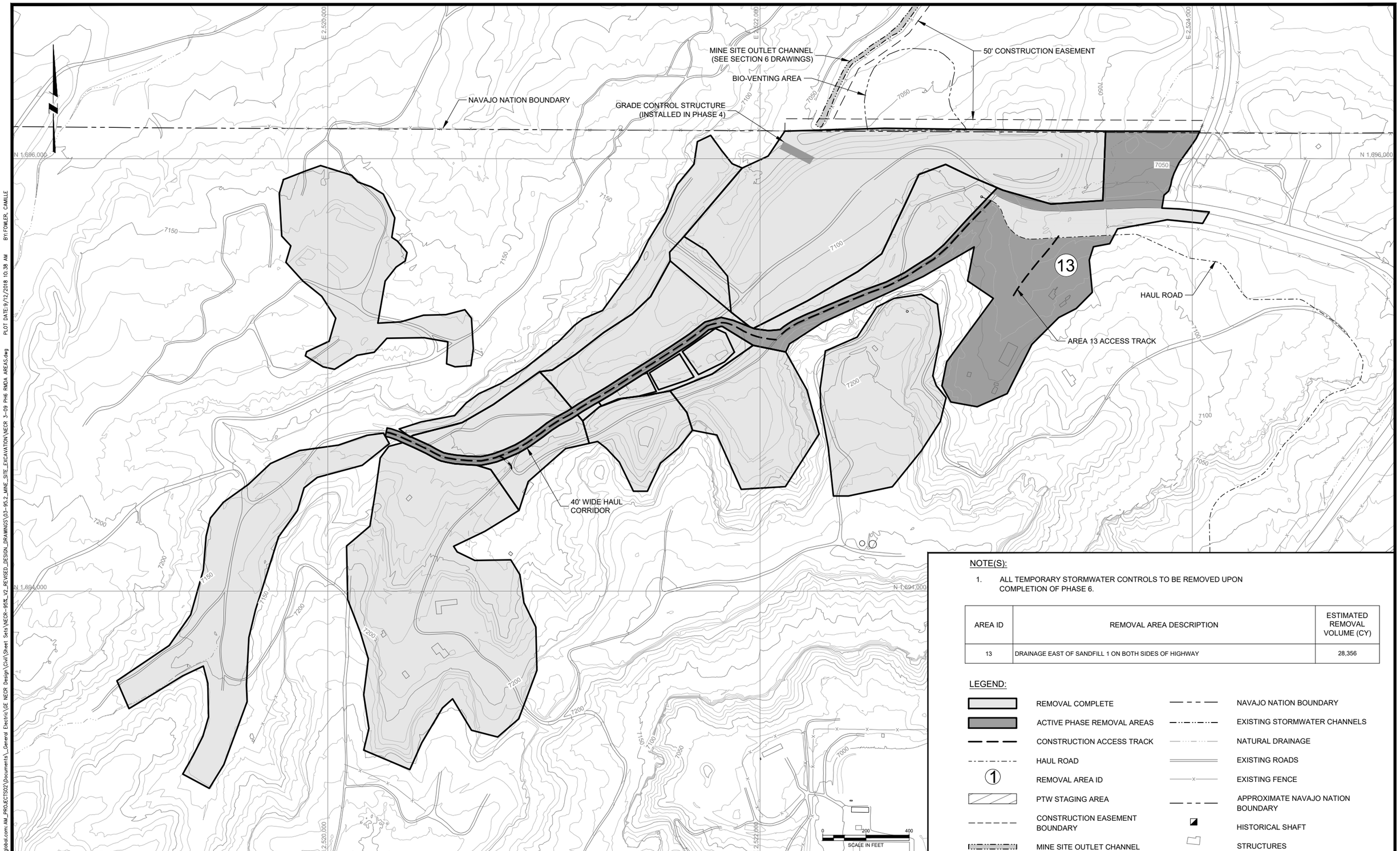

NOTE(S):

1. ALL TEMPORARY STORMWATER CONTROLS TO BE REMOVED UPON COMPLETION OF PHASE 6.

AREA ID	REMOVAL AREA DESCRIPTION	ESTIMATED REMOVAL VOLUME (CY)
13	DRAINAGE EAST OF SANDFILL 1 ON BOTH SIDES OF HIGHWAY	28,356

LEGEND:

- REMOVAL COMPLETE
- ACTIVE PHASE REMOVAL AREAS
- CONSTRUCTION ACCESS TRACK
- HAUL ROAD
- REMOVAL AREA ID
- PTW STAGING AREA
- CONSTRUCTION EASEMENT BOUNDARY
- MINE SITE OUTLET CHANNEL
- NAVAJO NATION BOUNDARY
- EXISTING STORMWATER CHANNELS
- NATURAL DRAINAGE
- EXISTING ROADS
- EXISTING FENCE
- APPROXIMATE NAVAJO NATION BOUNDARY
- HISTORICAL SHAFT
- STRUCTURES

REV	DATE	BY	DESCRIPTION
D	09/24/18	KR	ISSUED FOR LAR
C	04/09/18	KR	ISSUED FOR REVISED 95% DESIGN
B	10/30/17	KR	ISSUED FOR 95% DESIGN
A	07/15/16	KR	ISSUED FOR 30% DESIGN

DESIGNED K REED
CHECKED M WITLER
APPROVED J CUMBERS

Stantec

UNITED NUCLEAR CORPORATION AND NORTHEAST CHURCH ROCK MINE
McKINLEY COUNTY, NEW MEXICO
NORTHEAST CHURCH ROCK PROJECT 95% DESIGN
MINE SITE REMOVAL EXCAVATIONS AND DEMOLITION
PHASE 6 REMOVAL AREAS

SHEET
3-09
233001048

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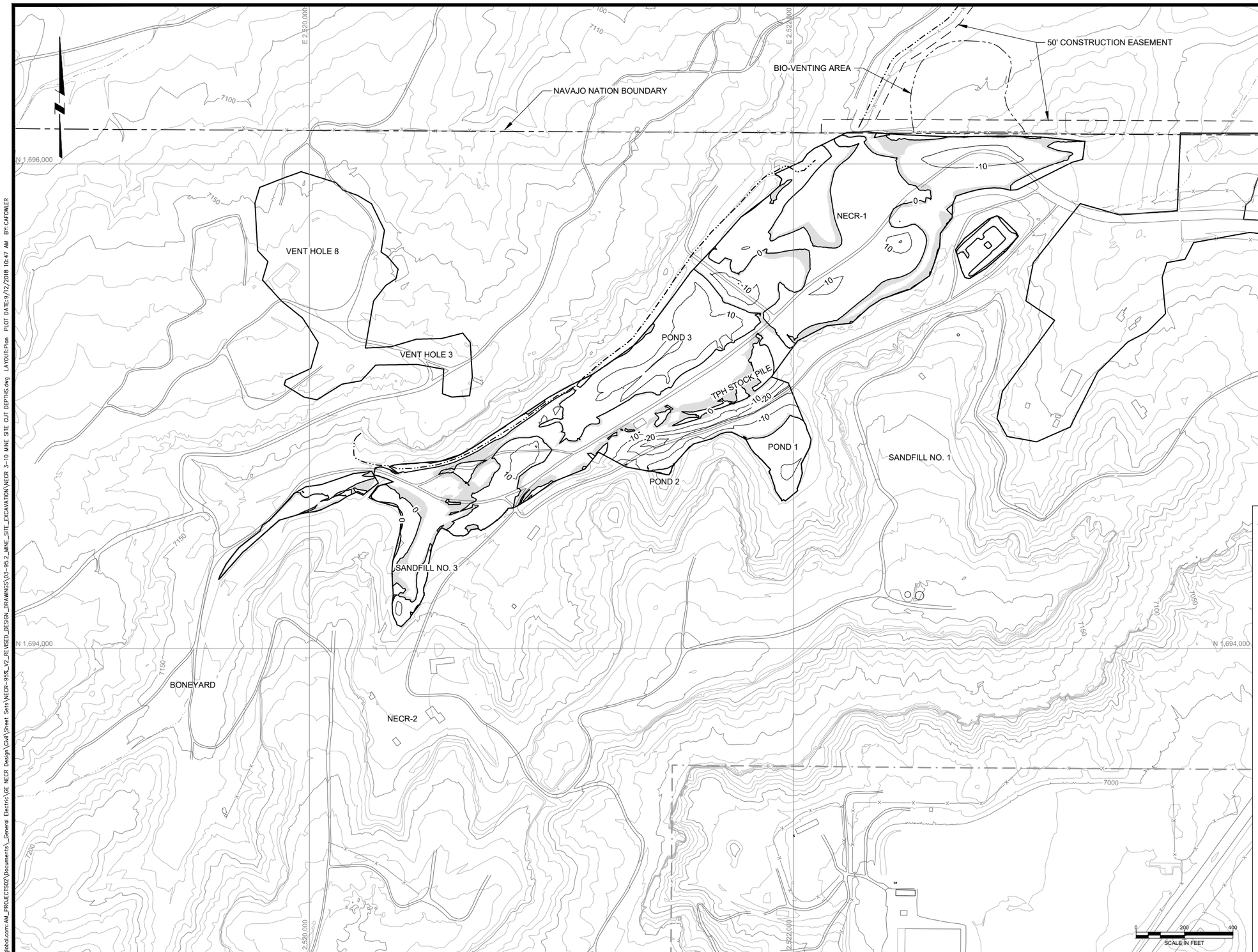

LEGEND:

- 7200 — EXISTING GROUND SURFACE ELEVATION CONTOUR, FEET
- -10 — ADDITIONAL CUT FROM NEAT LINE TO FINAL GRADE CONTOUR, FEET
- CHURCH ROCK MILL SITE BOUNDARY
- NAVAJO NATION BOUNDARY
- REGRADE BOUNDARY
- SURFACE REMOVAL (1 FOOT OR LESS)
- EXISTING STORMWATER CHANNELS
- CONSTRUCTION EASEMENT BOUNDARY
- NATURAL DRAINAGE
- EXISTING ROADS
- EXISTING FENCE
- STRUCTURES

0 200 400
SCALE IN FEET

REV	DATE	BY	DESCRIPTION
D	09/24/18	KR	ISSUED FOR LAR
C	04/09/18	KR	ISSUED FOR REVISED 95% DESIGN
B	10/30/17	KR	ISSUED FOR 95% DESIGN
A	07/15/16	KR	ISSUED FOR 30% DESIGN

DESIGNED K REED
CHECKED M WITLER
APPROVED J CUMBERS

Stantec

UNITED NUCLEAR CORPORATION AND NORTHEAST CHURCH ROCK MINE
McKINLEY COUNTY, NEW MEXICO
NORTHEAST CHURCH ROCK PROJECT 95% DESIGN
MINE SITE REMOVAL EXCAVATIONS AND DEMOLITION
CUT / FILL DEPTHS - NEAT LINE TO FINAL GRADE

SHEET
3-10
233001048

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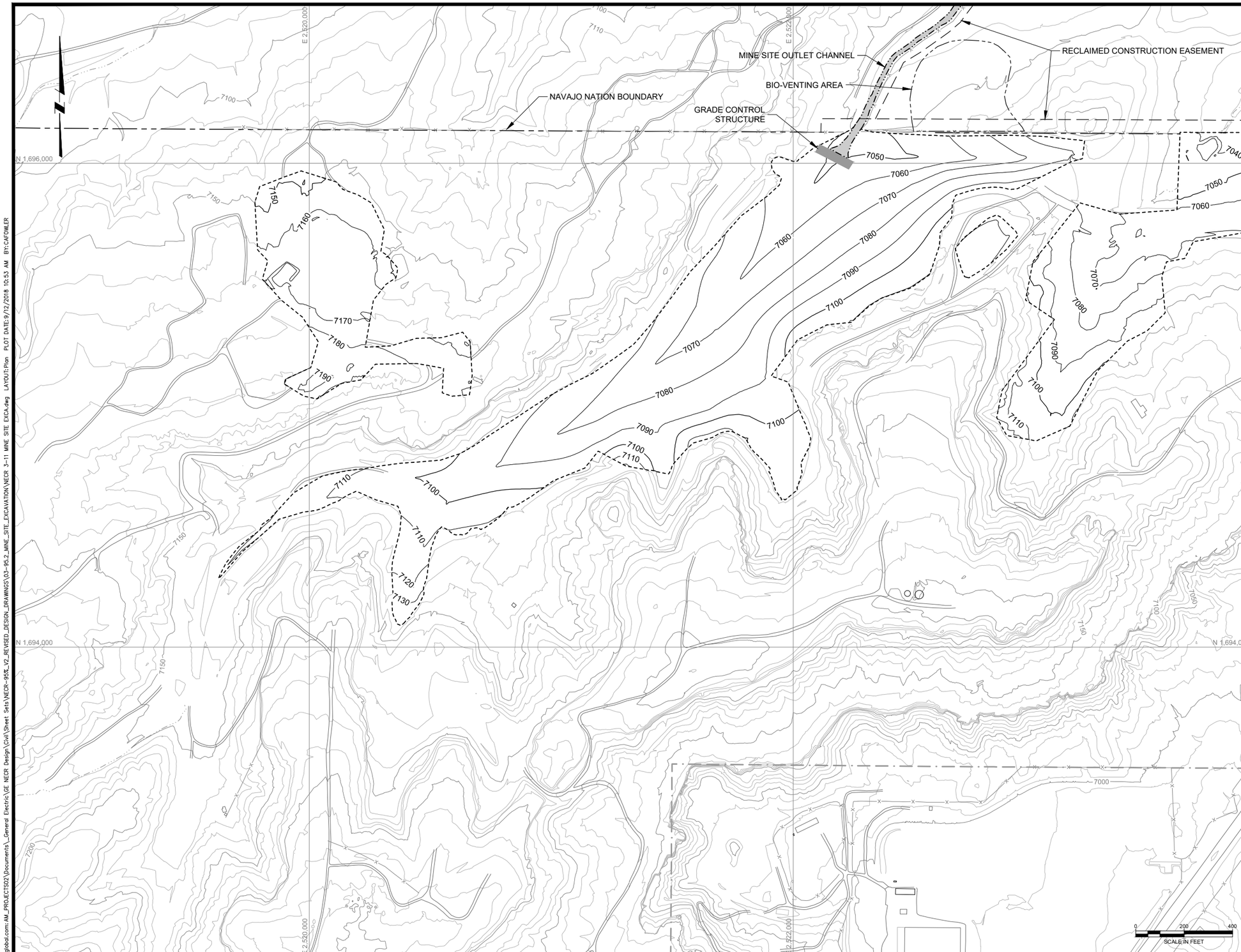

LEGEND:

7200	EXISTING GROUND SURFACE ELEVATION CONTOUR, FEET
7200	FINAL GRADING CONTOUR, FEET
	NAVAJO NATION BOUNDARY
	REMOVAL BOUNDARY
	MINE SITE OUTLET CHANNEL
	CONSTRUCTION EASEMENT BOUNDARY
	CHURCH ROCK MILL SITE BOUNDARY
	NATURAL DRAINAGE
	EXISTING ROADS
	EXISTING FENCE
	STRUCTURES

NOTE(S):

1. FINAL GRADING CONTOURS SHOWN PROVIDE APPROXIMATE REGRADED SURFACE AFTER MINE WASTE EXCAVATION. ACTUAL FINAL GRADING SURFACE MAY VARY FROM CONTOURS SHOWN BASED ON FIELD CONDITIONS.
2. FINAL REGRADED SURFACE TO PROVIDE POSITIVE DRAINAGE TO MINE SITE OUTLET CHANNEL NORTH OF MINE BOUNDARY.

REV	DATE	BY	DESCRIPTION
D	09/24/18	KR	ISSUED FOR LAR
C	04/09/18	KR	ISSUED FOR REVISED 95% DESIGN
B	10/30/17	KR	ISSUED FOR 95% DESIGN
A	07/15/16	KR	ISSUED FOR 30% DESIGN

DESIGNED K REED
CHECKED M WITLER
APPROVED J CUMBERS

Stantec

UNITED NUCLEAR CORPORATION AND NORTHEAST CHURCH ROCK MINE
McKINLEY COUNTY, NEW MEXICO
NORTHEAST CHURCH ROCK PROJECT 95% DESIGN
MINE SITE REMOVAL EXCAVATIONS AND DEMOLITION
FINAL GRADING

SHEET
3-11
233001048

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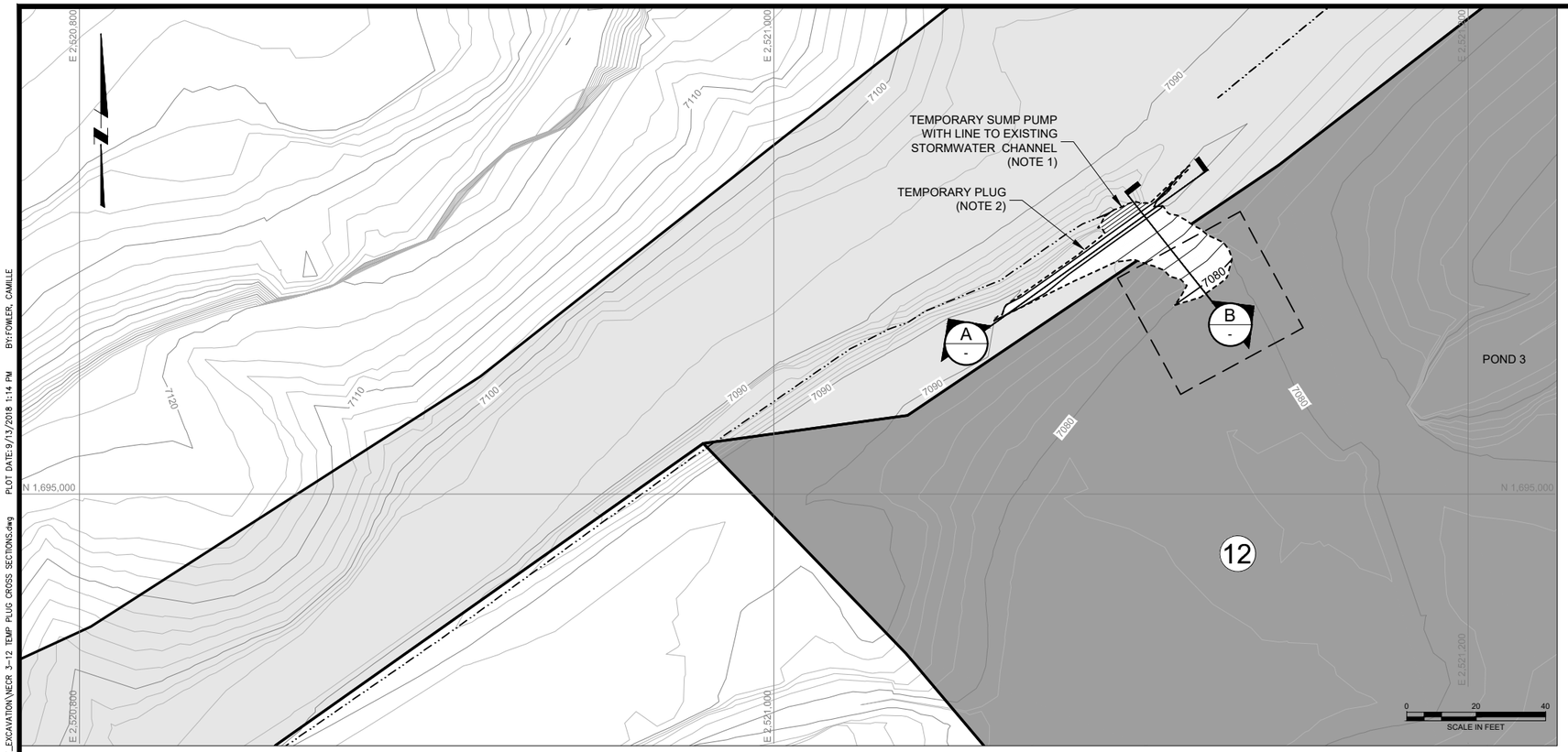


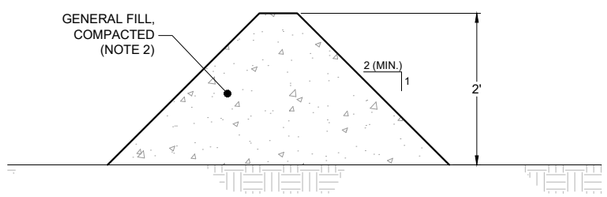
1 / 3-12 TEMPORARY PLUG
(SEE SHEET 3-07 FOR LOCATION)

LEGEND:

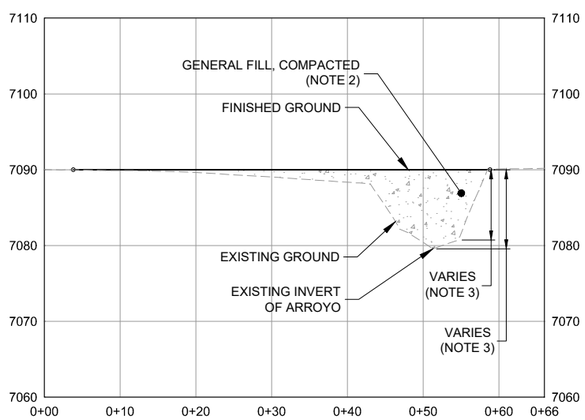
- 7200 — EXISTING GROUND SURFACE CONTOUR & ELEVATION, FEET
- 7200 — PROPOSED SURFACE CONTOUR & ELEVATION, FEET
- REMOVAL COMPLETE
- IMPACTED AREAS
- EXISTING STORMWATER CHANNEL
- PONDING EXTENT BOUNDARY

NOTE(S):

1. 50 GPM SUMP PUMP IS REQUIRED TO REMOVE STORMWATER THAT COLLECTS IN EXISTING ARROYO BEHIND EARTHEN PLUG. TO BE PROVIDED BY CONTRACTOR. REMOVED STORMWATER CAN BE RELEASED TO THE EXISTING STORMWATER CHANNEL THAT BYPASSES POND 3 TO THE NORTHEAST.
2. PLUG AND TYPICAL BERM CONSTRUCTED WITH AVAILABLE ONSITE, CLEAN SOIL COMPACTED IN 2-FT LIFTS TO 95% OF STANDARD PROCTOR DENSITY.
3. CONSTRUCT PLUG HEIGHT TO BE LEVEL WITH GROUND SURFACE.

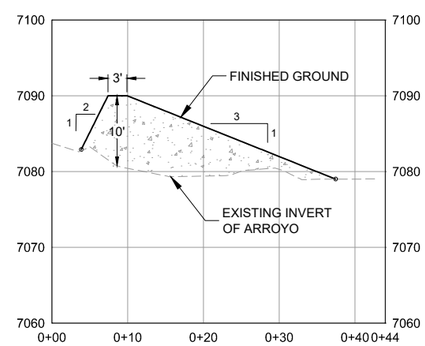


2 / 3-12 TEMPORARY DIVERSION BERM DETAIL
(NOT TO SCALE)



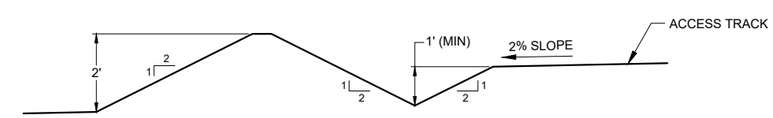
A / - TEMPORARY PLUG SECTION A

HORZ 0 10 20
VERT 0 10 20
SCALE IN FEET



B / - TEMPORARY PLUG SECTION B

HORZ 0 10 20
VERT 0 10 20
SCALE IN FEET



3 / 3-12 TEMPORARY CONSTRUCTION ACCESS TRACK SECTION
(NOT TO SCALE)

REV	DATE	BY	DESCRIPTION
C	04/09/18	KR	ISSUED FOR REVISED 95% DESIGN
B	10/30/17	KR	ISSUED FOR 95% DESIGN
A	07/15/16	KR	ISSUED FOR 30% DESIGN

DESIGNED K REED
CHECKED M WITLER
APPROVED J CUMBERS

Stantec

UNITED NUCLEAR CORPORATION AND NORTHEAST CHURCH ROCK MINE
McKINLEY COUNTY, NEW MEXICO
NORTHEAST CHURCH ROCK PROJECT 95% DESIGN
MINE SITE REMOVAL EXCAVATIONS AND DEMOLITION
TEMPORARY PLUG CROSS SECTIONS AND TYPICAL BERM DETAIL

SHEET
3-12
233001048

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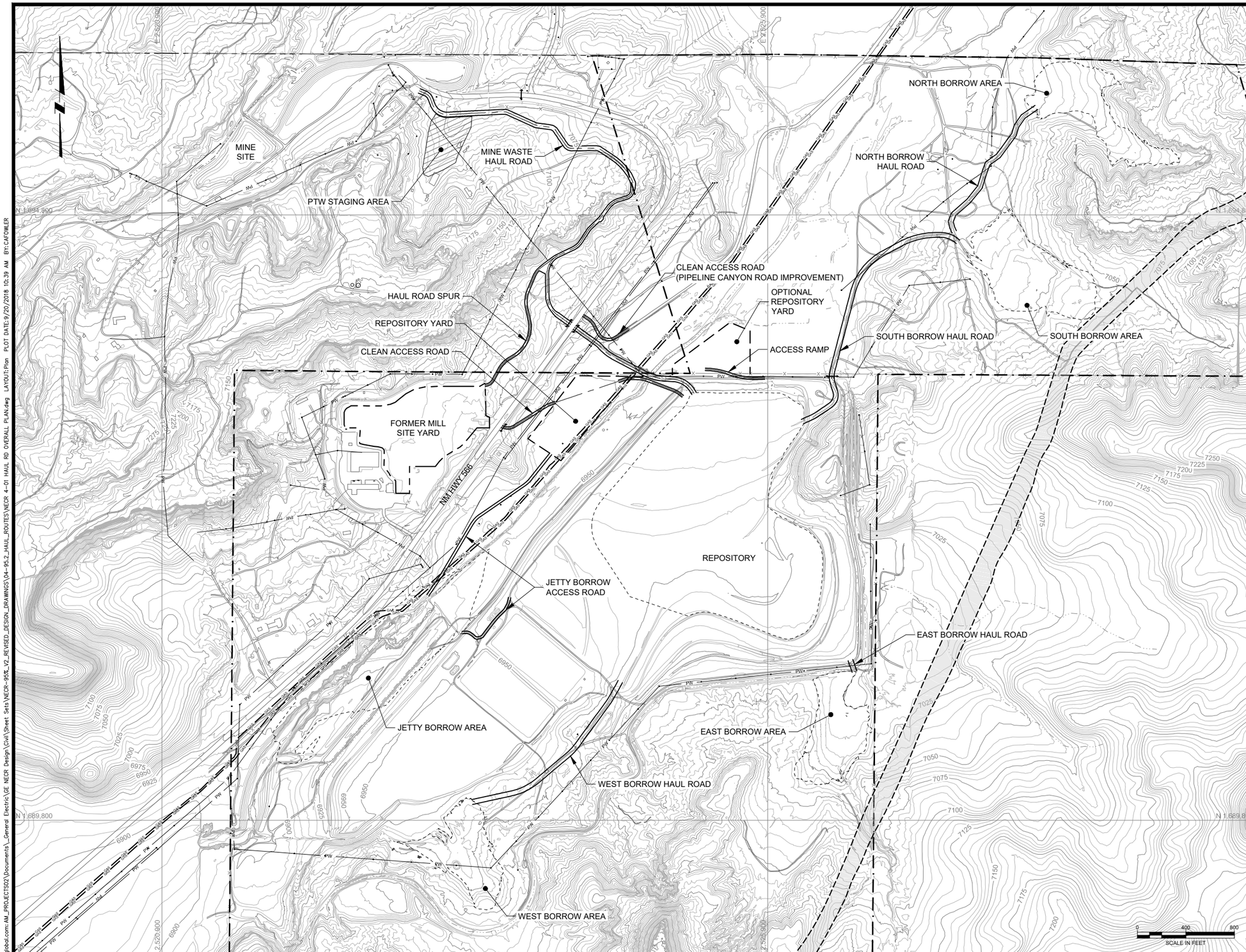

LEGEND:

- EXISTING GROUND SURFACE CONTOUR & ELEVATION, FEET
- PROPOSED FINAL SURFACE CONTOUR & ELEVATION, FEET
- UNC PROPERTY BOUNDARY
- FORMER MILL SITE YARD BOUNDARY
- OVERHEAD POWER LINES
- EXISTING FENCE
- EXISTING ROADS
- EXISTING STORMWATER CHANNELS
- NATURAL DRAINAGE
- GAS LINE
- GAS LINE CORRIDOR
- STRUCTURES
- PTW STAGING AREA
- GATE

REV	DATE	BY	DESCRIPTION
D	09/24/18	KR	ISSUED FOR LAR
C	04/09/18	KR	ISSUED FOR REVISED 95% DESIGN
B	10/30/17	KR	ISSUED FOR 95% DESIGN
A	07/15/16	KR	ISSUED FOR 30% DESIGN

DESIGNED K REED
CHECKED J COLEMAN
APPROVED J CUMBERS

Stantec

UNITED NUCLEAR CORPORATION AND NORTHEAST CHURCH ROCK MINE
McKINLEY COUNTY, NEW MEXICO

NORTHEAST CHURCH ROCK PROJECT 95% DESIGN
HAUL ROAD OVERALL PLAN

SHEET
4-01
233001048

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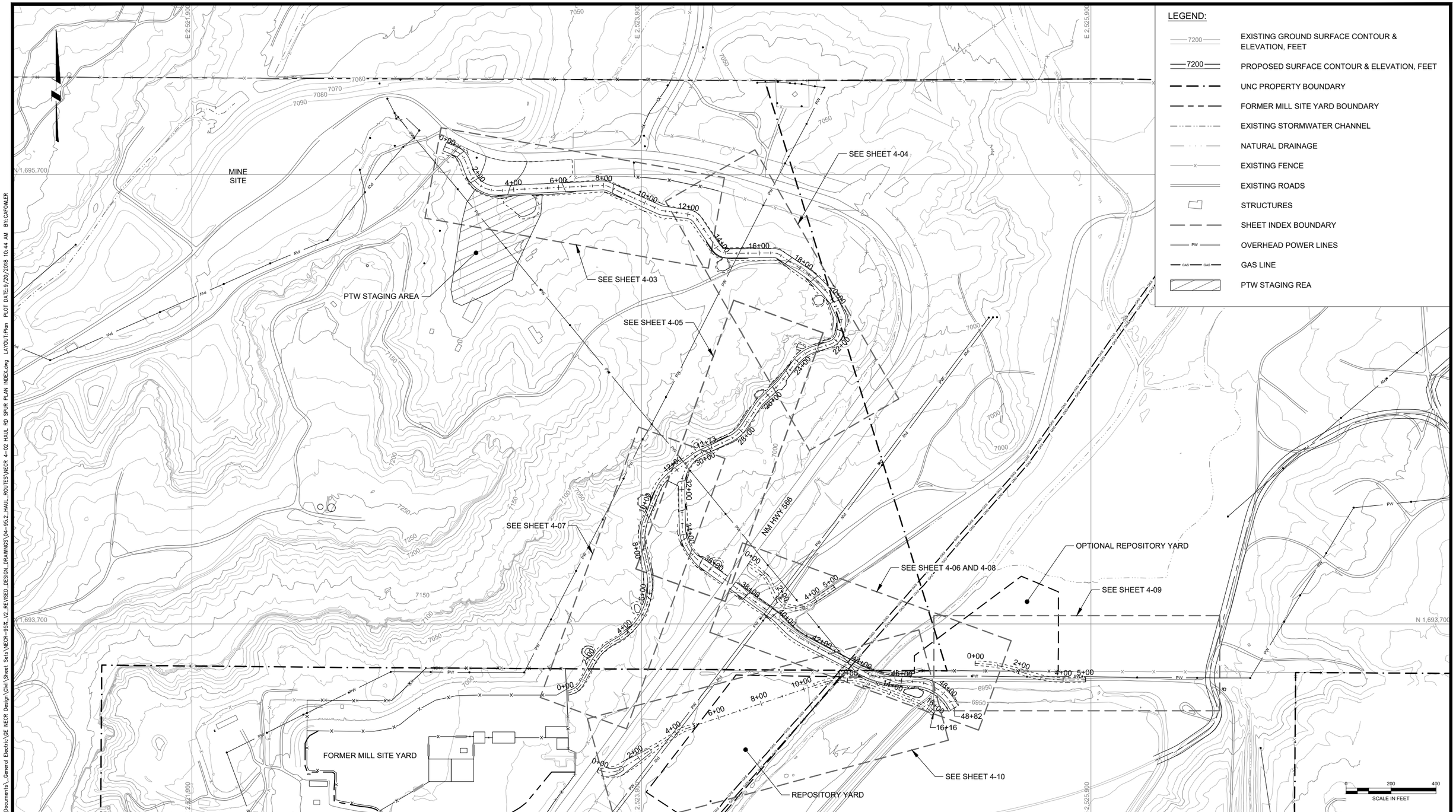

HAUL ROAD PLAN VIEW INDEX

REV	DATE	BY	DESCRIPTION
D	09/24/18	KR	ISSUED FOR LAR
C	04/09/18	KR	ISSUED FOR REVISED 95% DESIGN
B	10/30/17	KR	ISSUED FOR 95% DESIGN
A	07/15/16	KR	ISSUED FOR 30% DESIGN

DESIGNED K REED
CHECKED J COLEMAN
APPROVED J CUMBERS

Stantec

UNITED NUCLEAR CORPORATION AND NORTHEAST CHURCH ROCK MINE
McKINLEY COUNTY, NEW MEXICO

NORTHEAST CHURCH ROCK PROJECT 95% DESIGN
HAUL ROAD PLAN INDEX

SHEET
4-02
233001048

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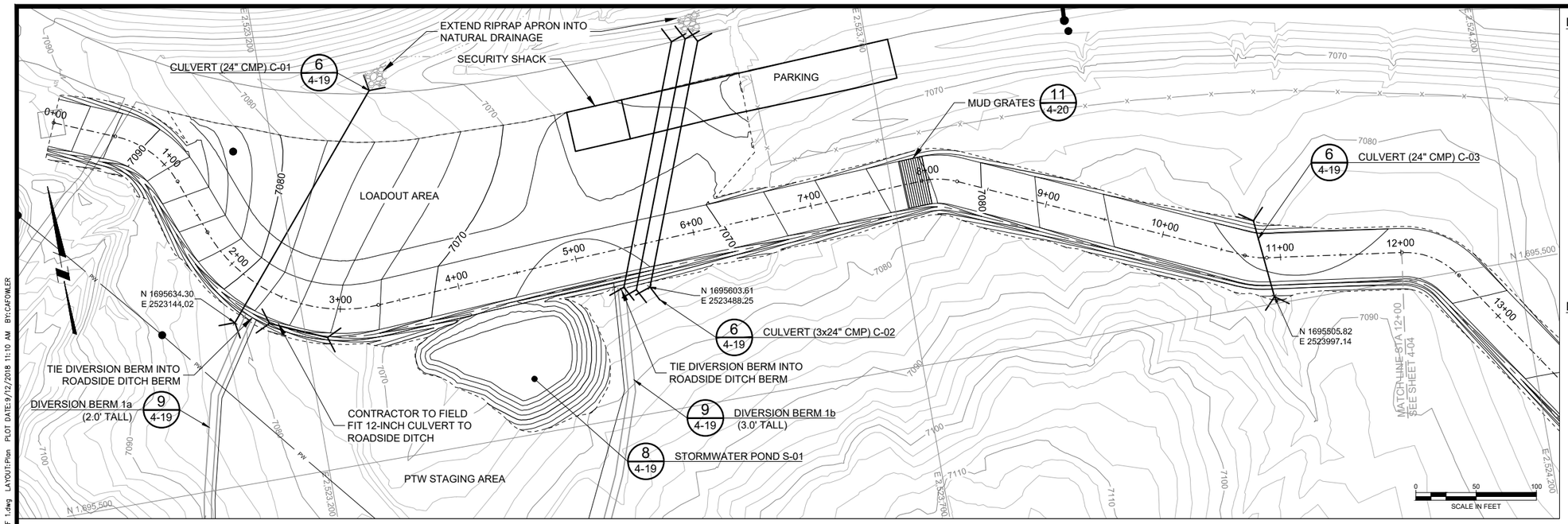


MINE WASTE HAUL ROAD PLAN VIEW

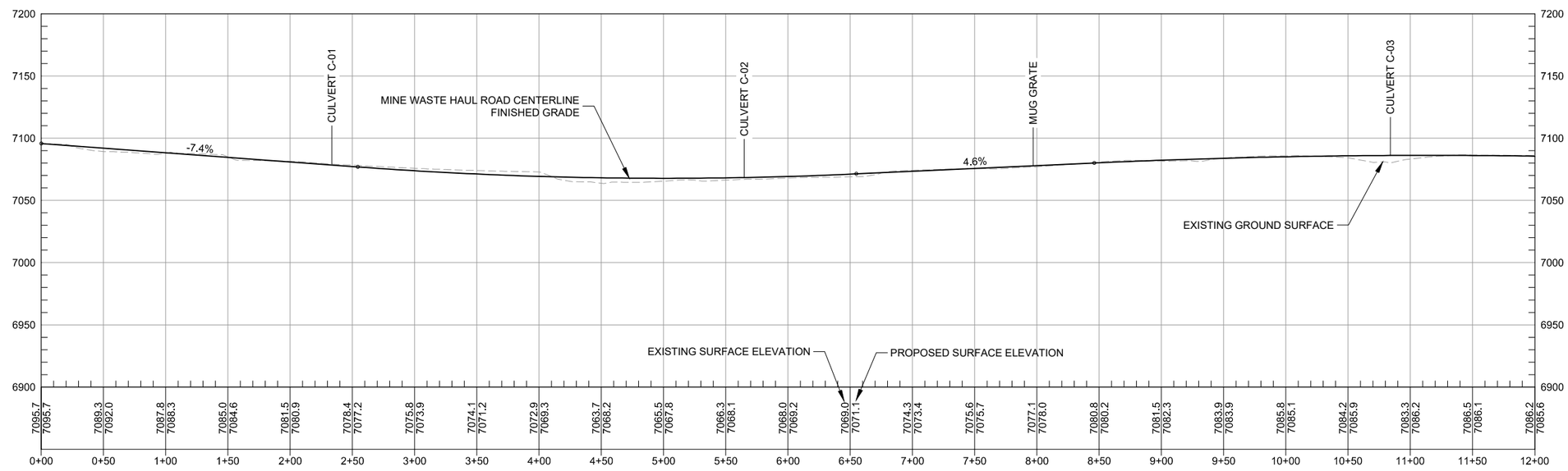
STATION 0+00 TO 12+00

LEGEND:

- EXISTING GROUND SURFACE CONTOUR & ELEVATION, FEET
- PROPOSED SURFACE CONTOUR & ELEVATION, FEET
- CULVERT
- GATE
- OVERHEAD POWER LINES
- EXISTING FENCE
- PROPOSED SURFACE BOUNDARY
- NATURAL DRAINAGE

NOTE(S):

1. TYPICAL ROAD SECTIONS ARE SHOWN ON DETAILS 1 AND 2 ON SHEET 4-18.
   A. 2-LANE SECTION: STA 0+00 TO 21+00
   B. TRANSITION: STA 21+00 TO 22+00
   C. 1-LANE SECTION: STA 22+00 TO 35+00
   D. TRANSITION: STA 35+00 TO 35+50
   E. 2-LANE SECTION: STA 35+50 TO 48+82



MINE WASTE HAUL ROAD PROFILE

STATION 0+00 TO 12+00

HORZ 0 50 100
VERT 0 50 100
SCALE IN FEET

REV	DATE	BY	DESCRIPTION
D	09/24/18	KR	ISSUED FOR LAR
C	04/09/18	KR	ISSUED FOR REVISED 95% DESIGN
B	10/30/17	KR	ISSUED FOR 95% DESIGN
A	07/15/16	KR	ISSUED FOR 30% DESIGN

DESIGNED K REED
CHECKED J COLEMAN
APPROVED J CUMBERS

Stantec

UNITED NUCLEAR CORPORATION AND NORTHEAST CHURCH ROCK MINE
McKINLEY COUNTY, NEW MEXICO

NORTHEAST CHURCH ROCK PROJECT 95% DESIGN
MINE WASTE HAUL ROAD PLAN AND PROFILE (1 OF 4)

SHEET 4-03

233001048

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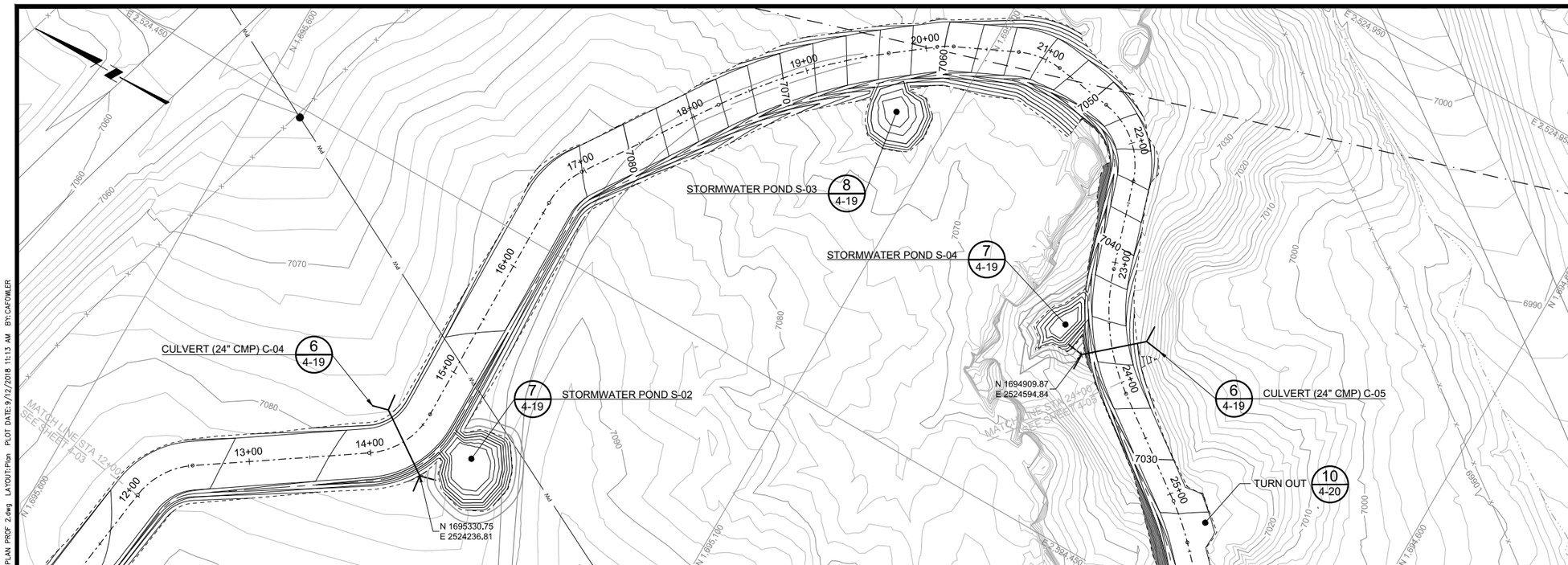


MINE WASTE HAUL ROAD PLAN VIEW

STATION 12+00 TO 24+00

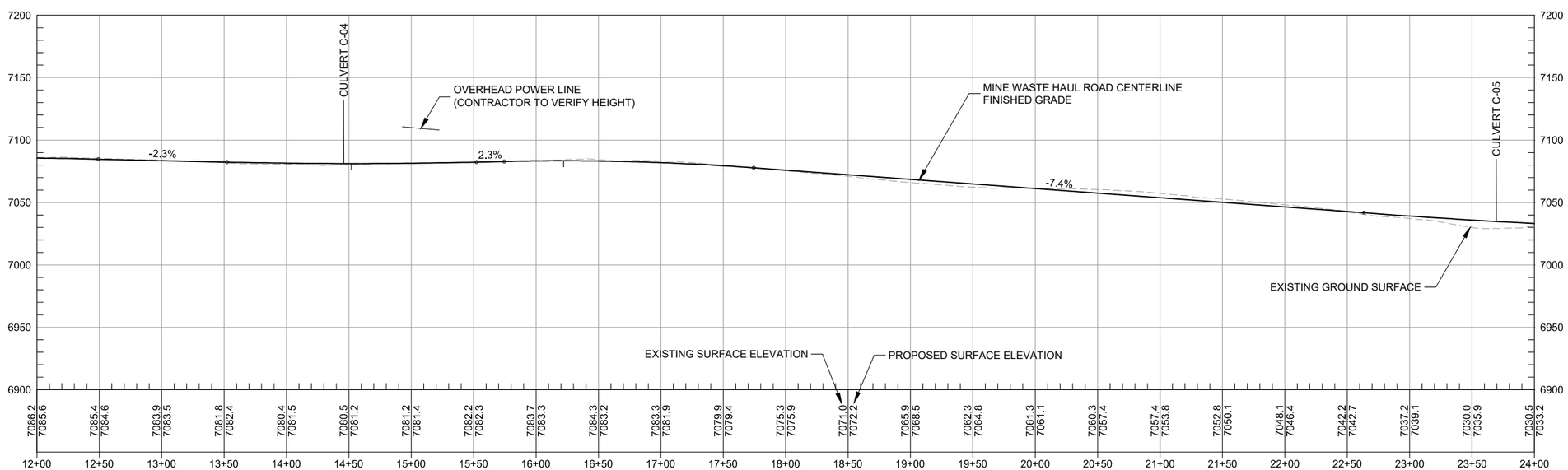
0 50 100
SCALE IN FEET

LEGEND:

- 7200 — EXISTING GROUND SURFACE CONTOUR & ELEVATION, FEET
- 7200 — PROPOSED SURFACE CONTOUR & ELEVATION, FEET
- CULVERT
- GATE
- PW — OVERHEAD POWER LINES
- UNC PROPERTY BOUNDARY
- X — EXISTING FENCE
- PROPOSED SURFACE BOUNDARY
- NATURAL DRAINAGE

NOTE(S):

1. TYPICAL ROAD SECTIONS ARE SHOWN ON DETAILS 1 AND 2 ON SHEET 4-18.
   A. 2-LANE SECTION: STA 0+00 TO 21+00
   B. TRANSITION: STA 21+00 TO 22+00
   C. 1-LANE SECTION: STA 22+00 TO 35+00
   D. TRANSITION: STA 35+00 TO 35+50
   E. 2-LANE SECTION: STA 35+50 TO 48+82



MINE WASTE HAUL ROAD PROFILE

STATION 12+00 TO 24+00

HORZ 0 50 100
VERT 0 50 100
SCALE IN FEET

REV	DATE	BY	DESCRIPTION
D	09/24/18	KR	ISSUED FOR LAR
C	04/09/18	KR	ISSUED FOR REVISED 95% DESIGN
B	10/30/17	KR	ISSUED FOR 95% DESIGN
A	07/15/16	KR	ISSUED FOR 30% DESIGN

DESIGNED K REED
CHECKED J COLEMAN
APPROVED J CUMBERS

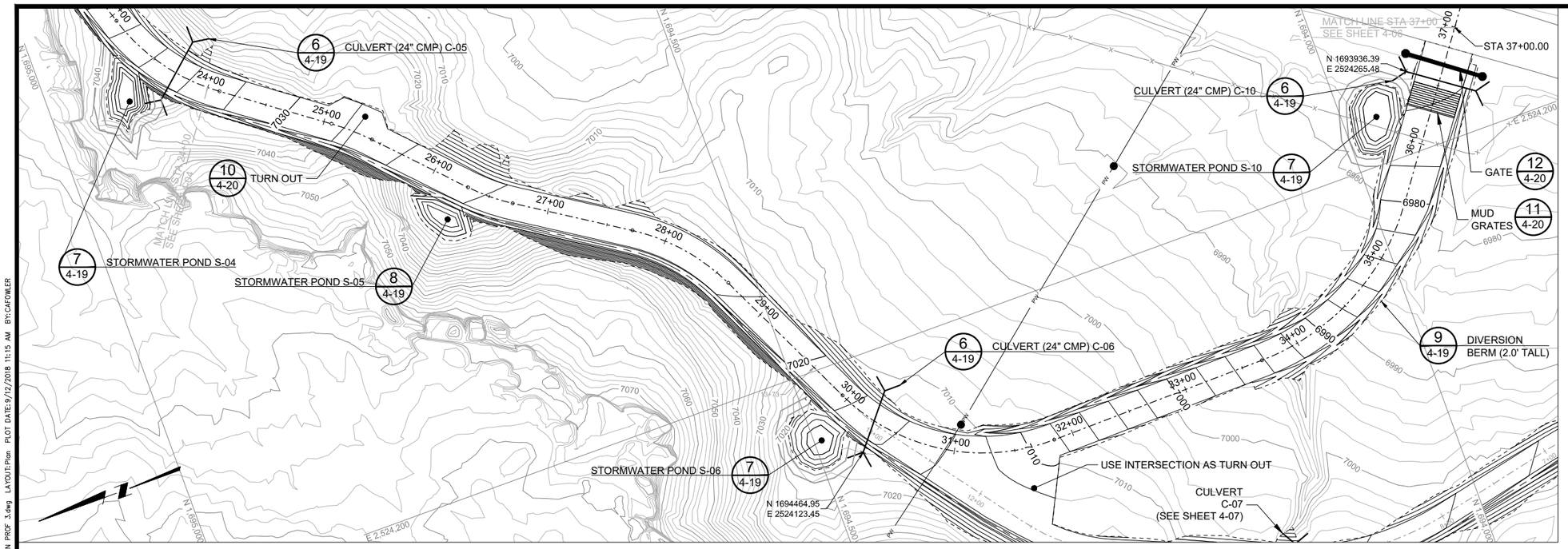
Stantec

UNITED NUCLEAR CORPORATION AND NORTHEAST CHURCH ROCK MINE
McKINLEY COUNTY, NEW MEXICO

NORTHEAST CHURCH ROCK PROJECT 95% DESIGN
MINE WASTE HAUL ROAD PLAN AND PROFILE (2 OF 4)

SHEET
4-04
233001048

p:\\amerpwin103.mwlglobal.com:AM_PROJECTS02\Documents_General Electric\GE NEOR Design\Civil\Sheet Sets\NECR-95%_V2_REVISED_DESIGN_DRAWINGS\04-95.2_HAUL_ROUTES\NECR 4-04 HAUL RD PLAN PROF 2.dwg LAYOUT:Plan PLOT DATE:9/12/2018 11:13 AM BY:CAFOWLER



MINE WASTE HAUL ROAD PLAN VIEW

STATION 24+00 TO 37+00

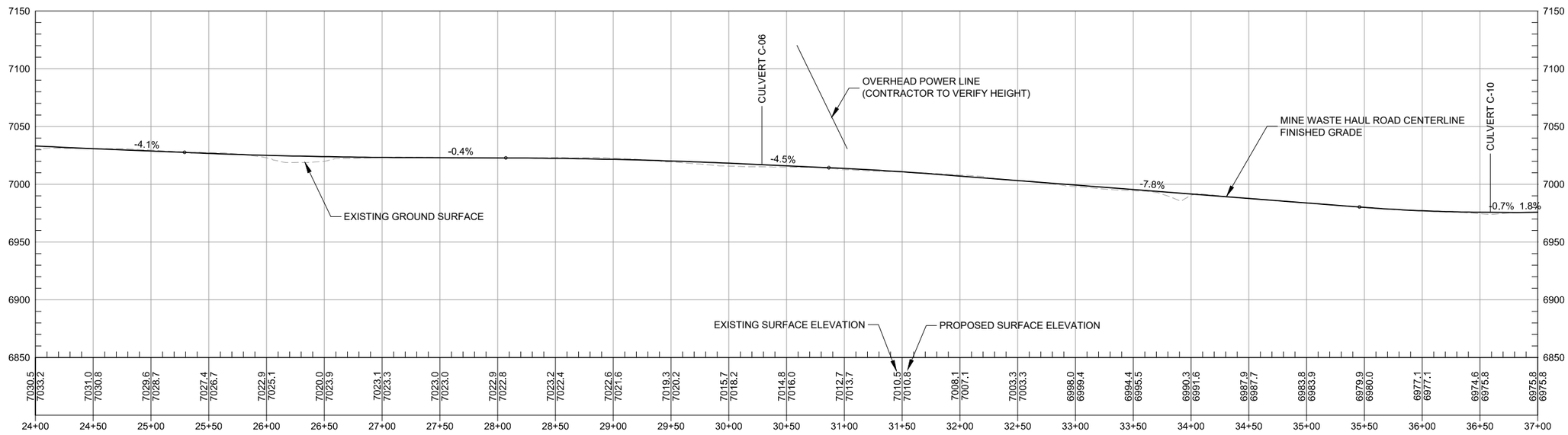
SCALE IN FEET: 0 50 100

LEGEND:

- 7200 — EXISTING GROUND SURFACE CONTOUR & ELEVATION, FEET
- 7200 — PROPOSED SURFACE CONTOUR & ELEVATION, FEET
- CULVERT
- GATE
- PW — OVERHEAD POWER LINES
- X — EXISTING FENCE
- PROPOSED SURFACE BOUNDARY
- NATURAL DRAINAGE

NOTE(S):

1. TYPICAL ROAD SECTIONS ARE SHOWN ON DETAILS 1 AND 2 ON SHEET 4-18.
   A. 2-LANE SECTION: STA 0+00 TO 21+00
   B. TRANSITION: STA 21+00 TO 22+00
   C. 1-LANE SECTION: STA 22+00 TO 35+00
   D. TRANSITION: STA 35+00 TO 35+50
   E. 2-LANE SECTION: STA 35+50 TO 48+82



MINE WASTE HAUL ROAD PROFILE

STATION 24+00 TO 37+00

HORZ 0 50 100
VERT 0 50 100
SCALE IN FEET

REV	DATE	BY	DESCRIPTION
D	09/24/18	KR	ISSUED FOR LAR
C	04/09/18	KR	ISSUED FOR REVISED 95% DESIGN
B	10/30/17	KR	ISSUED FOR 95% DESIGN
A	07/15/16	KR	ISSUED FOR 30% DESIGN

DESIGNED K REED
CHECKED J COLEMAN
APPROVED J CUMBERS

Stantec

UNITED NUCLEAR CORPORATION AND NORTHEAST CHURCH ROCK MINE
McKINLEY COUNTY, NEW MEXICO

NORTHEAST CHURCH ROCK PROJECT 95% DESIGN
MINE WASTE HAUL ROAD PLAN AND PROFILE (3 OF 4)

SHEET 4-05

233001048

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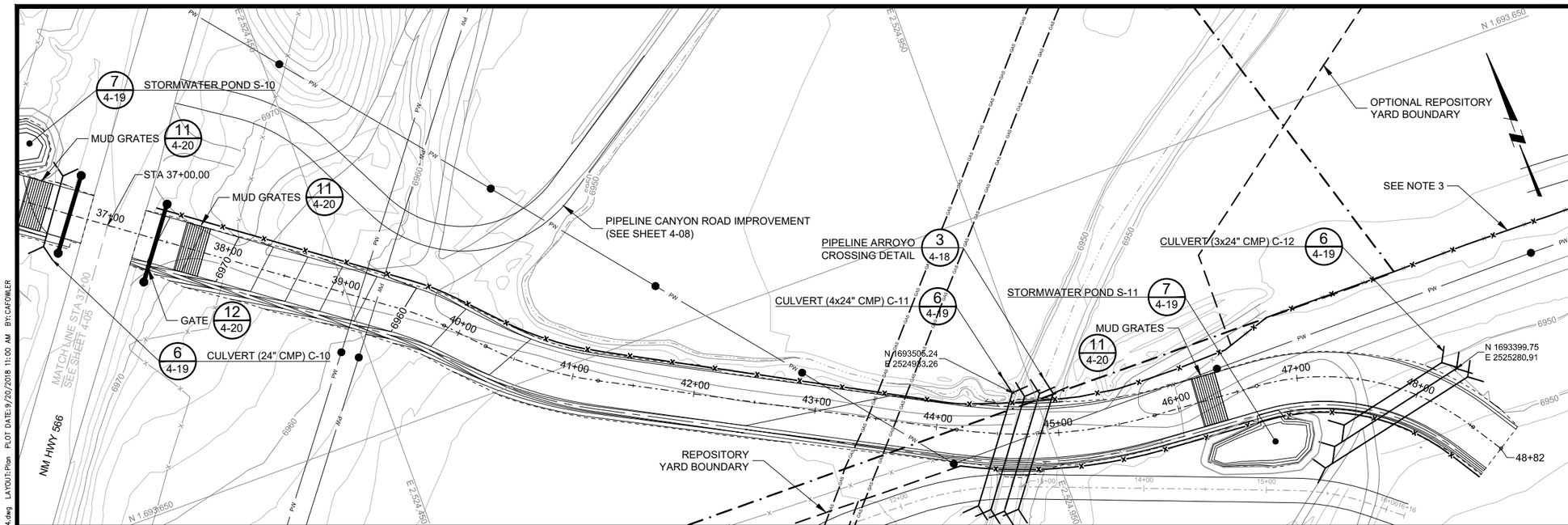


MINE WASTE HAUL ROAD PLAN VIEW

STATION 37+00 TO 48+89

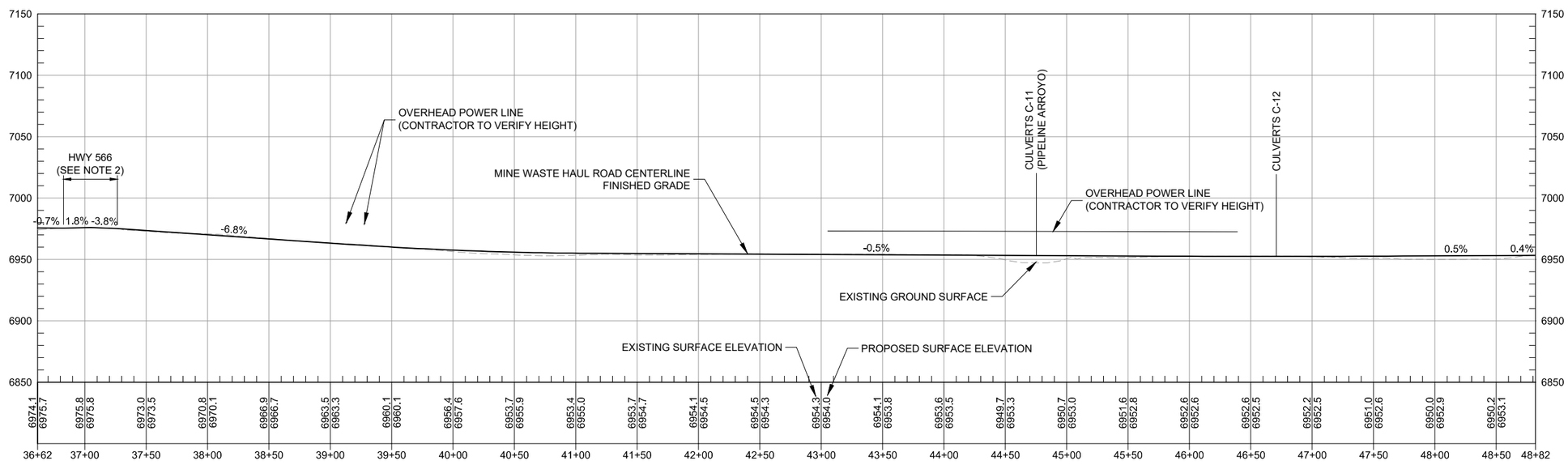
SCALE IN FEET

LEGEND:

- EXISTING GROUND SURFACE CONTOUR & ELEVATION, FEET
- PROPOSED SURFACE CONTOUR & ELEVATION, FEET
- CULVERT
- GATE
- OVERHEAD POWER LINES
- UNC PROPERTY BOUNDARY
- EXISTING FENCE
- NEW SEPARATION FENCE
- PROPOSED SURFACE BOUNDARY
- NATURAL DRAINAGE
- GAS LINE

NOTE(S):

1. TYPICAL ROAD SECTIONS ARE SHOWN ON DETAILS 1 AND 2 ON SHEET 4-18.
   A. 2-LANE SECTION: STA 0+00 TO 21+00
   B. TRANSITION: STA 21+00 TO 22+00
   C. 1-LANE SECTION: STA 22+00 TO 35+00
   D. TRANSITION: STA 35+00 TO 35+50
   E. 2-LANE SECTION: STA 35+50 TO 48+82
2. FIELD FIT HAUL ROAD GRADE AT HWY 566 TO MATCH PAVEMENT ELEVATION.
3. CONTRACTOR TO MATCH EXISTING FENCE (SEE SPECIFICATIONS).



MINE WASTE HAUL ROAD PROFILE

STATION 37+77 TO 48+89

HORZ 0 50 100
VERT 0 50 100
SCALE IN FEET

REV	DATE	BY	DESCRIPTION
D	09/24/18	KR	ISSUED FOR LAR
C	04/09/18	KR	ISSUED FOR 95% REVISED DESIGN
B	10/30/17	KR	ISSUED FOR 95% DESIGN
A	07/15/16	KR	ISSUED FOR 30% DESIGN

DESIGNED K REED
CHECKED J COLEMAN
APPROVED J CUMBERS

Stantec

UNITED NUCLEAR CORPORATION AND NORTHEAST CHURCH ROCK MINE
McKINLEY COUNTY, NEW MEXICO

NORTHEAST CHURCH ROCK PROJECT 95% DESIGN
MINE WASTE HAUL ROAD PLAN AND PROFILE (4 OF 4)

SHEET
4-06
233001048

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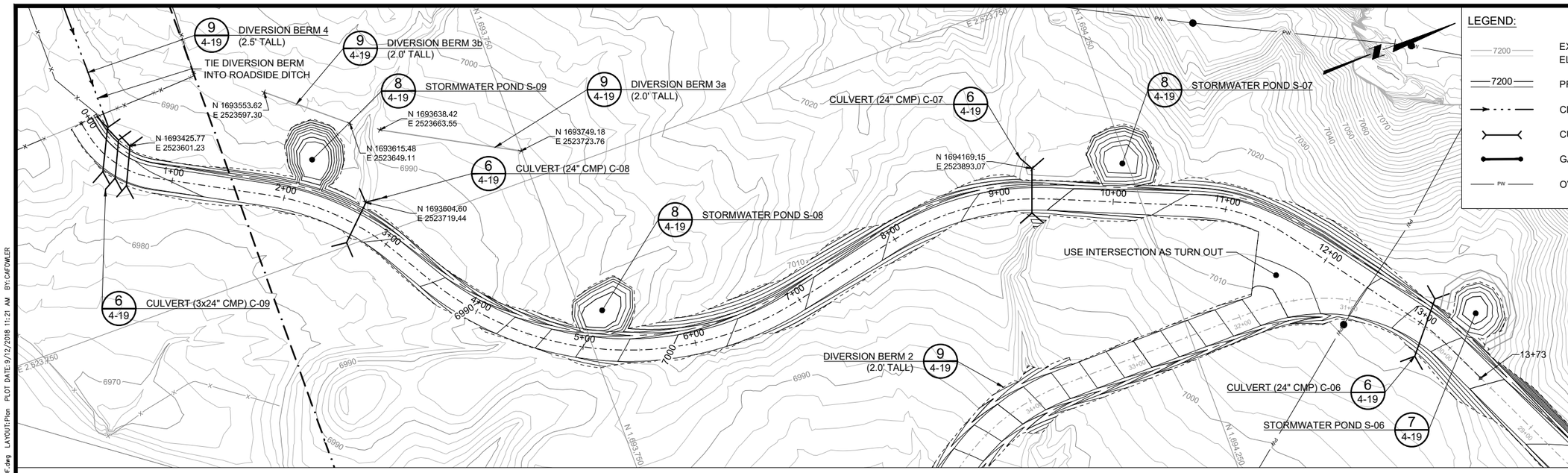


LEGEND:

- EXISTING GROUND SURFACE CONTOUR & ELEVATION, FEET
- PROPOSED SURFACE CONTOUR & ELEVATION, FEET
- CLEAN STORMWATER DIVERSION DITCH
- CULVERT
- GATE
- OVERHEAD POWER LINES
- UNC PROPERTY BOUNDARY
- EXISTING FENCE
- NEW SEPARATION FENCE
- PROPOSED SURFACE BOUNDARY
- NATURAL DRAINAGE

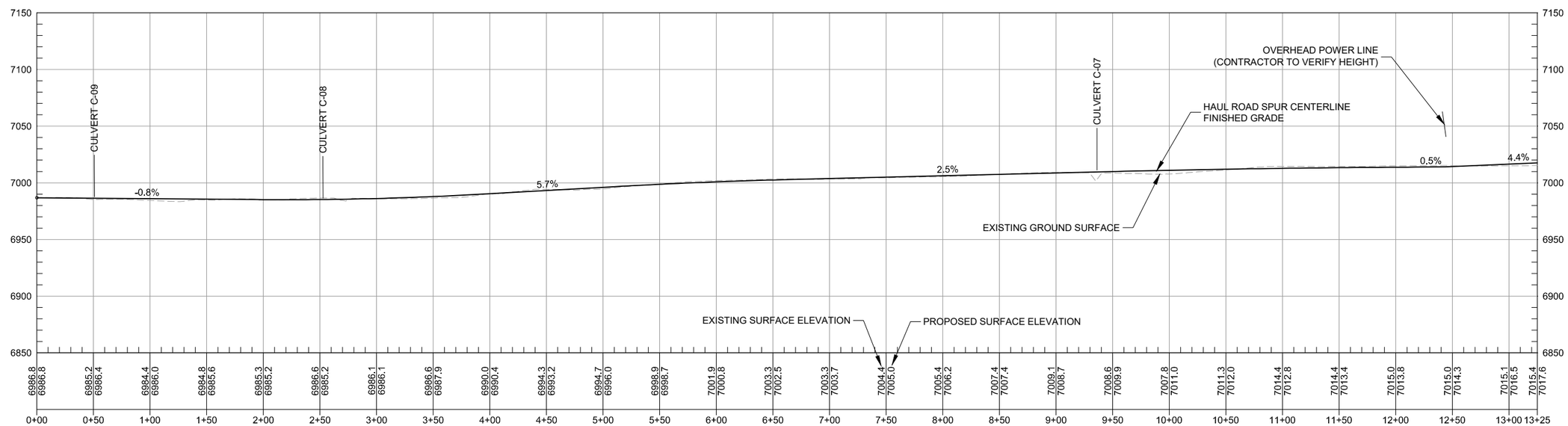
NOTE(S):

1. TYPICAL ROAD SECTIONS ARE SHOWN ON DETAILS 1 AND 2 ON SHEET 4-18.
   A. 1-LANE SECTION: STA 0+00 TO 13+00

HAUL ROAD SPUR PLAN VIEW

STATION 0+00 TO 13+09

SCALE IN FEET 0 50 100



HAUL ROAD SPUR PROFILE

STATION 0+00 TO 13+09

HORZ 0 50 100
VERT 0 50 100
SCALE IN FEET

REV	DATE	BY	DESCRIPTION
D	09/24/18	KR	ISSUED FOR LAR
C	04/09/18	KR	ISSUED FOR 95% REVISED DESIGN
B	10/30/17	KR	ISSUED FOR 95% DESIGN
A	07/15/16	KR	ISSUED FOR 30% DESIGN

DESIGNED K REED
CHECKED J COLEMAN
APPROVED J CUMBERS

Stantec

UNITED NUCLEAR CORPORATION AND NORTHEAST CHURCH ROCK MINE
McKINLEY COUNTY, NEW MEXICO

NORTHEAST CHURCH ROCK PROJECT 95% DESIGN
MINE WASTE HAUL ROAD SPUR PLAN AND PROFILE

SHEET 4-07

233001048

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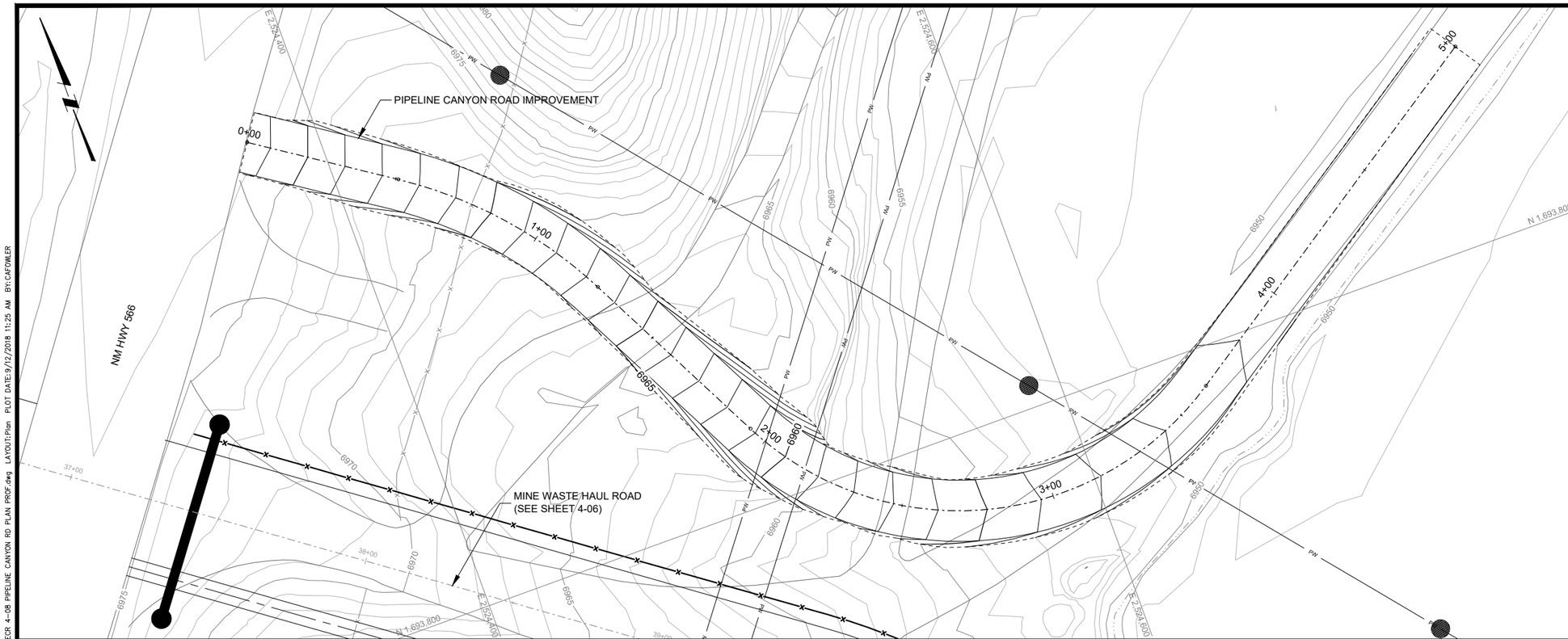


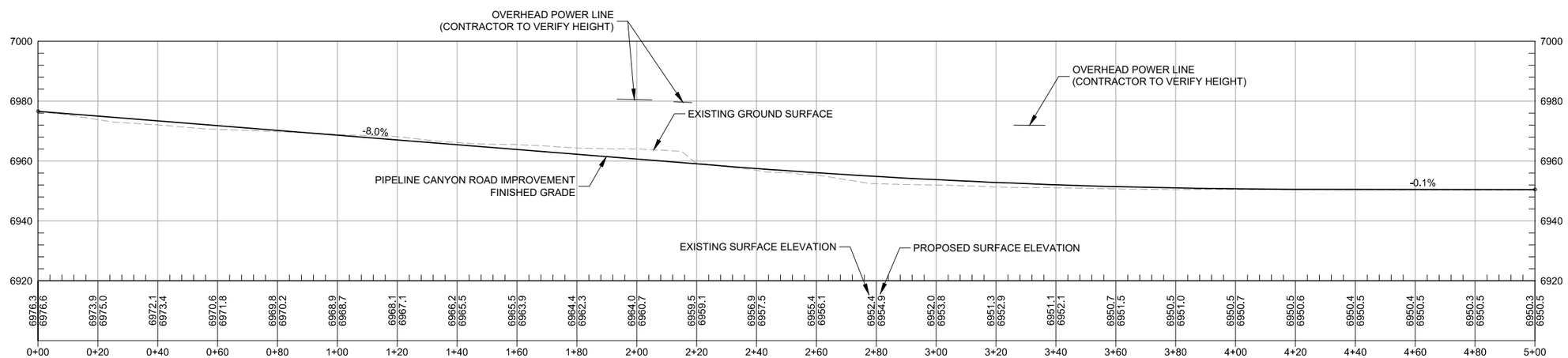
PIPELINE CANYON ROAD IMPROVEMENT PLAN VIEW

STATION 0+00 TO 5+00

0 20 40
SCALE IN FEET

LEGEND:

- 7200 — EXISTING GROUND SURFACE CONTOUR & ELEVATION, FEET
- 7200 — PROPOSED SURFACE CONTOUR & ELEVATION, FEET
- GATE
- EXISTING FENCE
- NEW SEPARATION FENCE
- PW — OVERHEAD POWER LINES
- PROPOSED SURFACE BOUNDARY
- NATURAL DRAINAGE



PIPELINE CANYON ROAD IMPROVEMENT PROFILE

STATION 0+00 TO 5+00

HORZ 0 20 40
VERT 0 20 40
SCALE IN FEET

REV	DATE	BY	DESCRIPTION
D	09/24/18	KR	ISSUED FOR LAR
C	04/09/18	KR	ISSUED FOR REVISED 95% DESIGN
B	10/30/17	KR	ISSUED FOR 95% DESIGN
A	07/15/16	KR	ISSUED FOR 30% DESIGN

DESIGNED K REED
CHECKED J COLEMAN
APPROVED J CUMBERS

Stantec

UNITED NUCLEAR CORPORATION AND NORTHEAST CHURCH ROCK MINE
McKINLEY COUNTY, NEW MEXICO

NORTHEAST CHURCH ROCK PROJECT 95% DESIGN
CLEAN ACCESS ROAD PLAN AND PROFILE

SHEET
4-08
233001048

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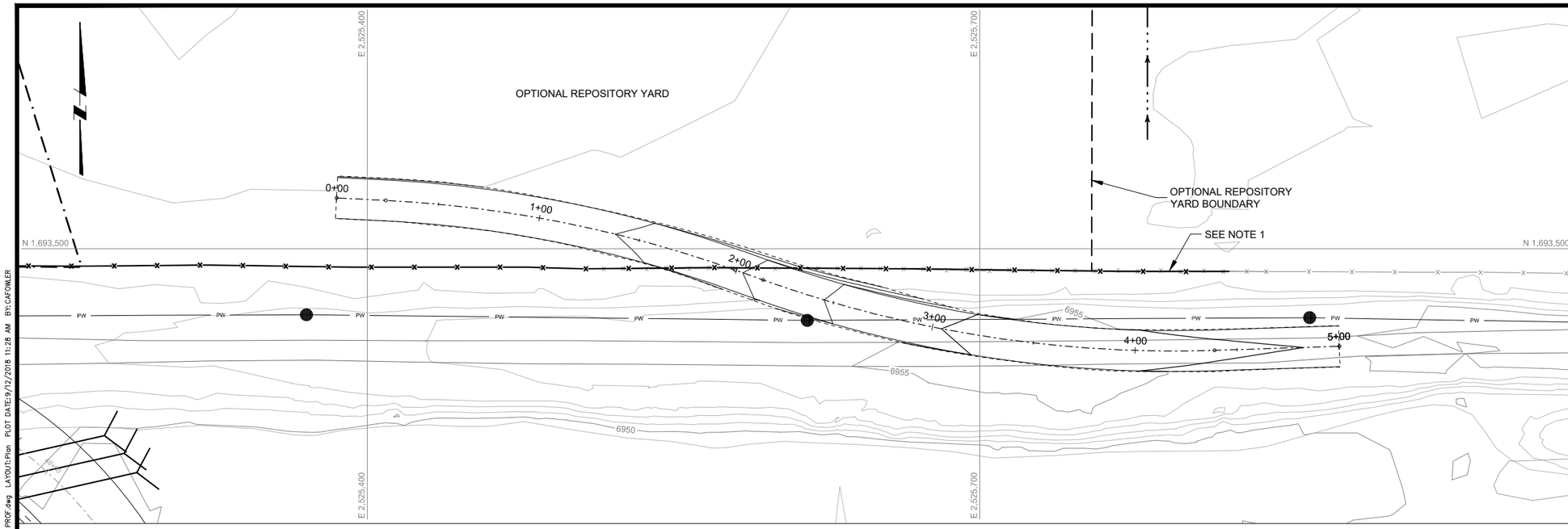


ACCESS RAMP PLAN VIEW

STATION 0+00 TO 5+00

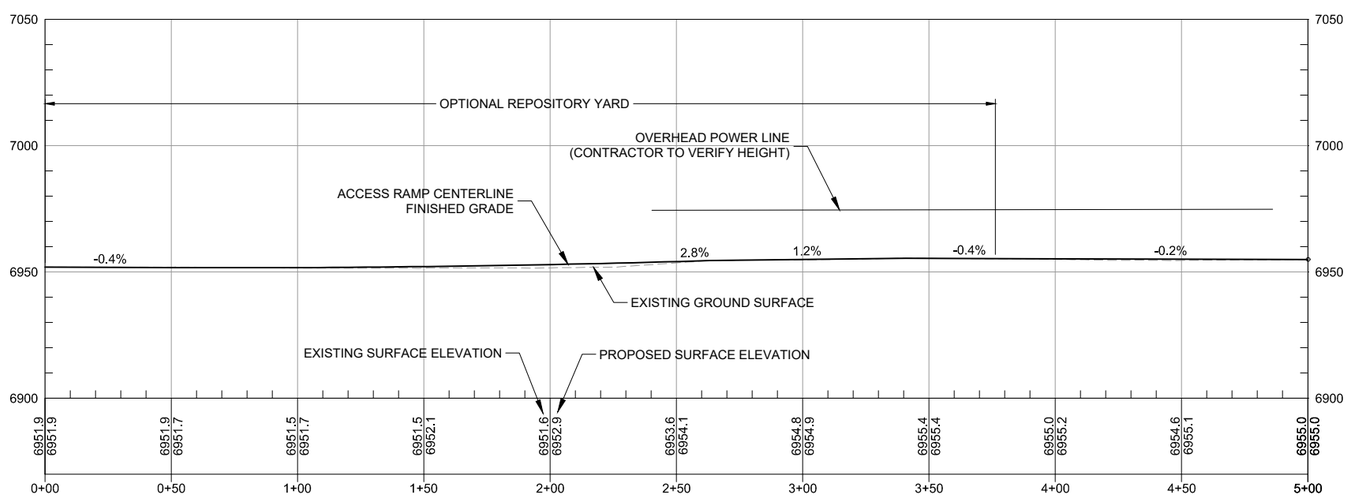
0 30 60
SCALE IN FEET

LEGEND:

- 7200 — EXISTING GROUND SURFACE CONTOUR & ELEVATION, FEET
- 7200 — PROPOSED SURFACE CONTOUR & ELEVATION, FEET
- EXISTING FENCE
- NEW SEPARATION FENCE
- DITCH
- PW — OVERHEAD POWER LINES
- UNC PROPERTY BOUNDARY

NOTE:

1. CONTRACTOR TO MATCH EXISTING FENCE. (SEE SPECIFICATIONS)



ACCESS RAMP PROFILE

STATION 0+00 TO 5+00

HORZ 0 30 60
VERT 0 30 60
SCALE IN FEET

REV	DATE	BY	DESCRIPTION
D	09/24/18	KR	ISSUED FOR LAR
C	04/09/18	KR	ISSUED FOR REVISED 95% DESIGN
B	10/30/17	KR	ISSUED FOR 95% DESIGN
A	07/15/16	KR	ISSUED FOR 30% DESIGN

DESIGNED K REED
CHECKED J COLEMAN
APPROVED J CUMBERS

Stantec

UNITED NUCLEAR CORPORATION AND NORTHEAST CHURCH ROCK MINE
McKINLEY COUNTY, NEW MEXICO

NORTHEAST CHURCH ROCK PROJECT 95% DESIGN
CLEAN ACCESS RAMP PLAN AND PROFILE

SHEET
4-09
233001048

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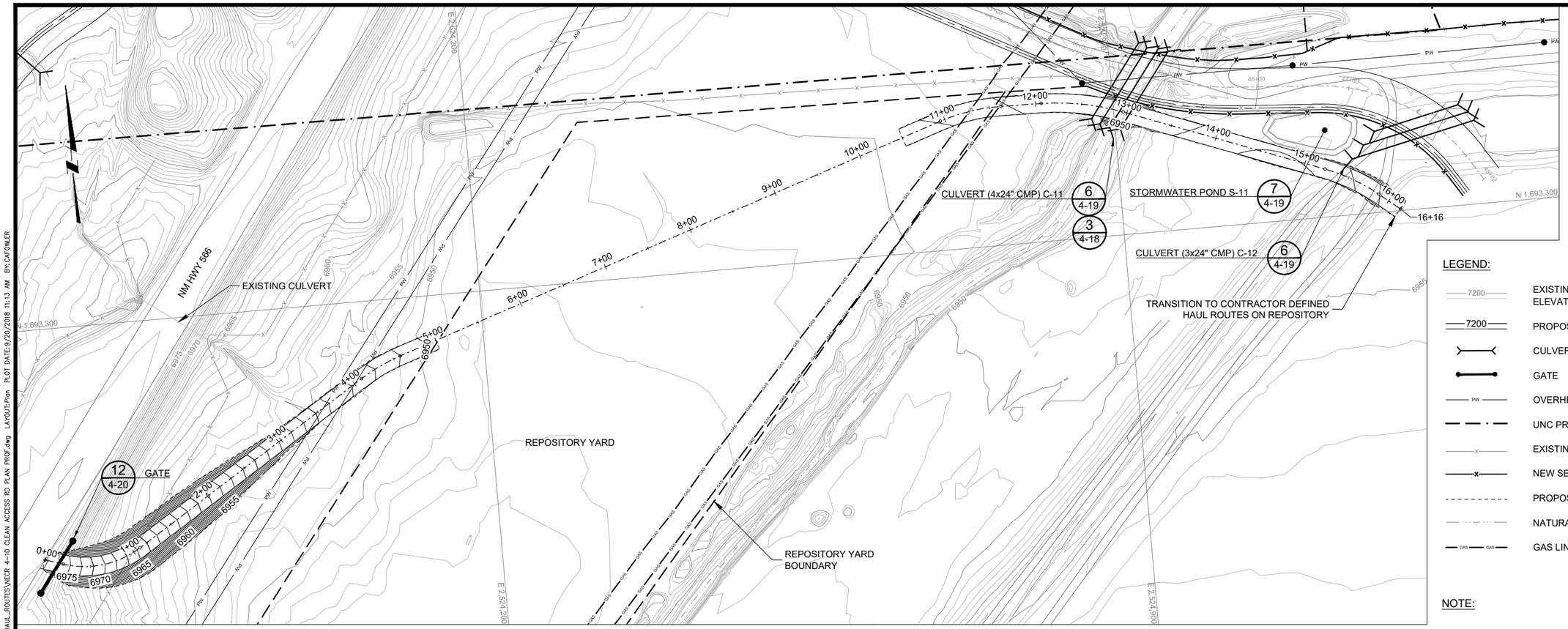


LEGEND:

- 7200 — EXISTING GROUND SURFACE CONTOUR & ELEVATION, FEET
- 7200 — PROPOSED SURFACE CONTOUR & ELEVATION, FEET
- CULVERT
- GATE
- PW — OVERHEAD POWER LINES
- UNC PROPERTY BOUNDARY
- X — EXISTING FENCE
- NEW SEPARATION FENCE
- PROPOSED SURFACE BOUNDARY
- NATURAL DRAINAGE
- GAS — GAS LINE

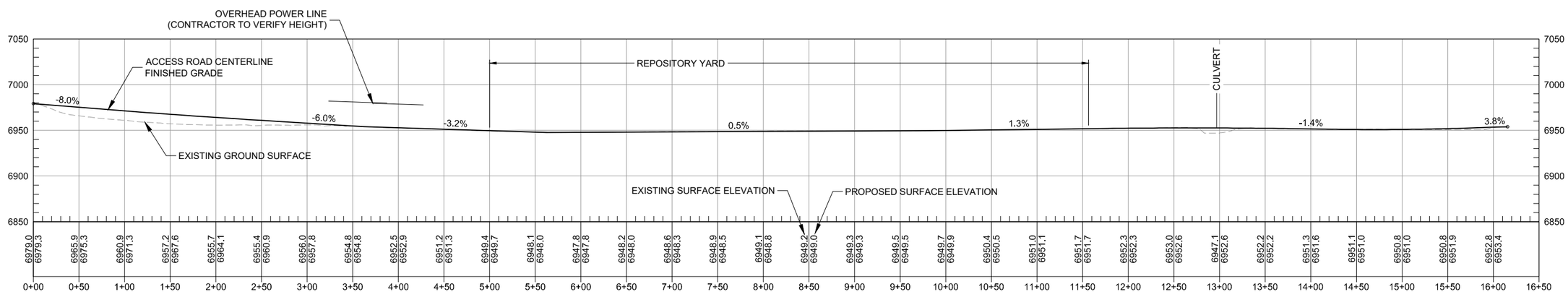
NOTE:

1. CLEAN ACCESS ROAD SHALL BE GRADED TO DRAIN.

CLEAN ACCESS ROAD PLAN VIEW

STATION 0+00 TO 16+16

0 60 120
SCALE IN FEET



CLEAN ACCESS ROAD PROFILE

STATION 0+00 TO 16+16

HORZ 0 30 60
VERT 0 30 60
SCALE IN FEET

REV	DATE	BY	DESCRIPTION
D	09/24/18	KR	ISSUED FOR LAR
C	04/09/18	KR	ISSUED FOR REVISED 95% DESIGN
B	10/30/17	KR	ISSUED FOR 95% DESIGN
A	07/15/16	KR	ISSUED FOR 30% DESIGN

DESIGNED K REED
CHECKED J COLEMAN
APPROVED J CUMBERS

Stantec

UNITED NUCLEAR CORPORATION AND NORTHEAST CHURCH ROCK MINE
McKINLEY COUNTY, NEW MEXICO

NORTHEAST CHURCH ROCK PROJECT 95% DESIGN
REPOSITORY YARD CLEAN ACCESS ROAD PLAN AND PROFILE

SHEET
4-10
233001048

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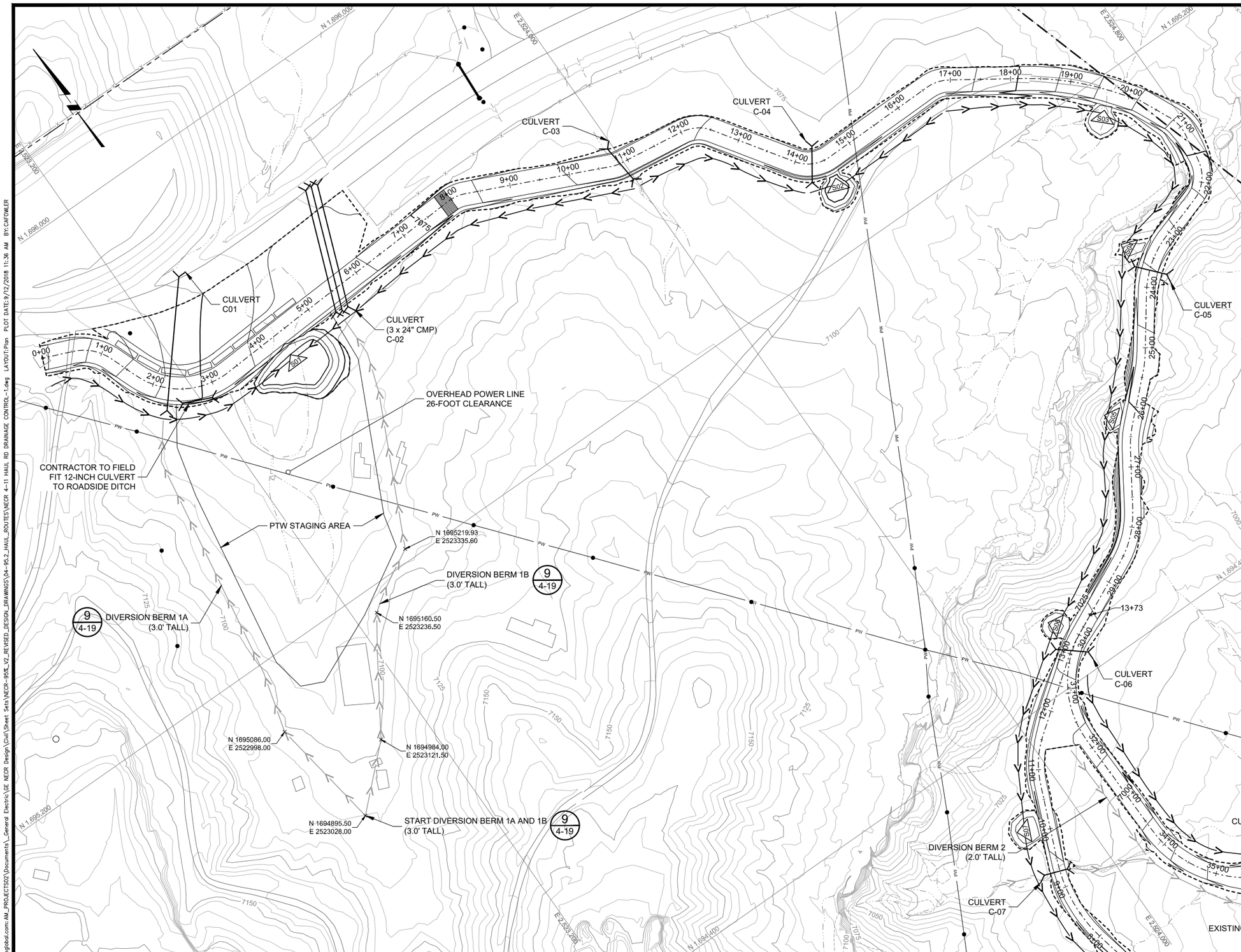

LEGEND:

- EXISTING GROUND SURFACE CONTOUR & ELEVATION, FEET
- PROPOSED SURFACE CONTOUR & ELEVATION, FEET
- UNC PROPERTY BOUNDARY
- PROPOSED SURFACE BOUNDARY
- NATURAL DRAINAGE
- STORMWATER POND
- CULVERT
- CONTACT WATER FLOW DIRECTION
- NON-CONTACT WATER FLOW PATH
- GATE
- OVERHEAD POWER LINES
- EXISTING FENCE
- STRUCTURES
- MUD GRATES

NOTE(S):

1. RUNOFF FROM THE MINE WASTE HAUL ROAD SHALL BE CONTAINED IN STORMWATER PONDS FOR COLLECTION AND DISPOSAL.
2. DRAINAGE CROSSINGS SHALL BE DESIGNED TO KEEP CONTACT RUNOFF SEPARATE FROM NON-CONTACT RUNOFF.

STORMWATER POND ID	APPROXIMATE STATION
S01	4+20
S02	14+35
S03	19+53
S04	23+45
S05	26+50
S06	30+20
S07	10+00 (ACCESS)
S08	5+00 (ACCESS)
S09	2+20 (ACCESS)
S10	35+90
S11	46+90

REV	DATE	BY	DESCRIPTION
D	09/24/18	KR	ISSUED FOR LAR
C	04/09/18	KR	ISSUED FOR REVISED 95% DESIGN
B	10/30/17	KR	ISSUED FOR 95% DESIGN
A	07/15/16	KR	ISSUED FOR 30% DESIGN

DESIGNED K REED
CHECKED J COLEMAN
APPROVED J CUMBERS

Stantec

UNITED NUCLEAR CORPORATION AND NORTHEAST CHURCH ROCK MINE
McKINLEY COUNTY, NEW MEXICO

NORTHEAST CHURCH ROCK PROJECT 95% DESIGN
MINE WASTE HAUL ROAD DRAINAGE CONTROL PLAN (1 OF 2)

SHEET 4-11

233001048

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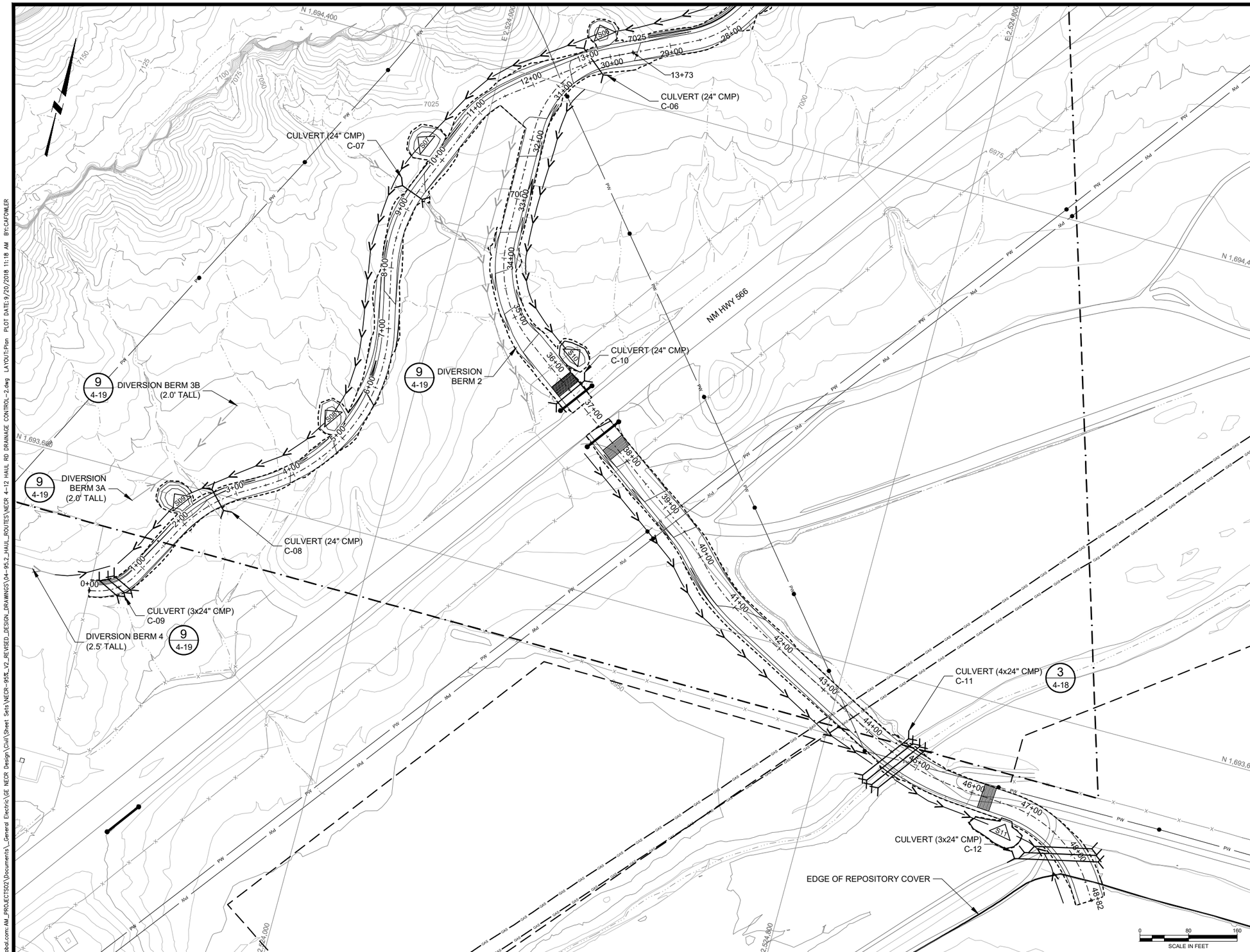

LEGEND:

- EXISTING GROUND SURFACE CONTOUR & ELEVATION, FEET
- PROPOSED SURFACE CONTOUR & ELEVATION, FEET
- UNC PROPERTY BOUNDARY
- PROPOSED SURFACE BOUNDARY
- EXISTING FENCE
- NEW SEPARATION FENCE
- NATURAL DRAINAGE
- STORMWATER POND
- CULVERT
- CONTACT WATER FLOW DIRECTION
- NON-CONTACT WATER FLOW PATH
- GATE
- OVERHEAD POWER LINES
- GAS LINE
- MUD GRATES

NOTE(S):

1. RUNOFF FROM THE MINE WASTE HAUL ROAD SHALL BE CONTAINED IN STORMWATER PONDS FOR COLLECTION AND DISPOSAL.
2. DRAINAGE CROSSINGS SHALL BE DESIGNED TO KEEP CONTACT RUNOFF SEPARATE FROM NON-CONTACT RUNOFF.

REV	DATE	BY	DESCRIPTION
D	09/24/18	KR	ISSUED FOR LAR
C	04/09/18	KR	ISSUED FOR REVISED 95% DESIGN
B	10/30/17	KR	ISSUED FOR 95% DESIGN
A	07/15/16	KR	ISSUED FOR 30% DESIGN

DESIGNED K REED
CHECKED J COLEMAN
APPROVED J CUMBERS

Stantec

UNITED NUCLEAR CORPORATION AND NORTHEAST CHURCH ROCK MINE
McKINLEY COUNTY, NEW MEXICO

NORTHEAST CHURCH ROCK PROJECT 95% DESIGN
MINE WASTE HAUL ROAD DRAINAGE CONTROL PLAN (2 OF 2)

SHEET
4-12
233001048

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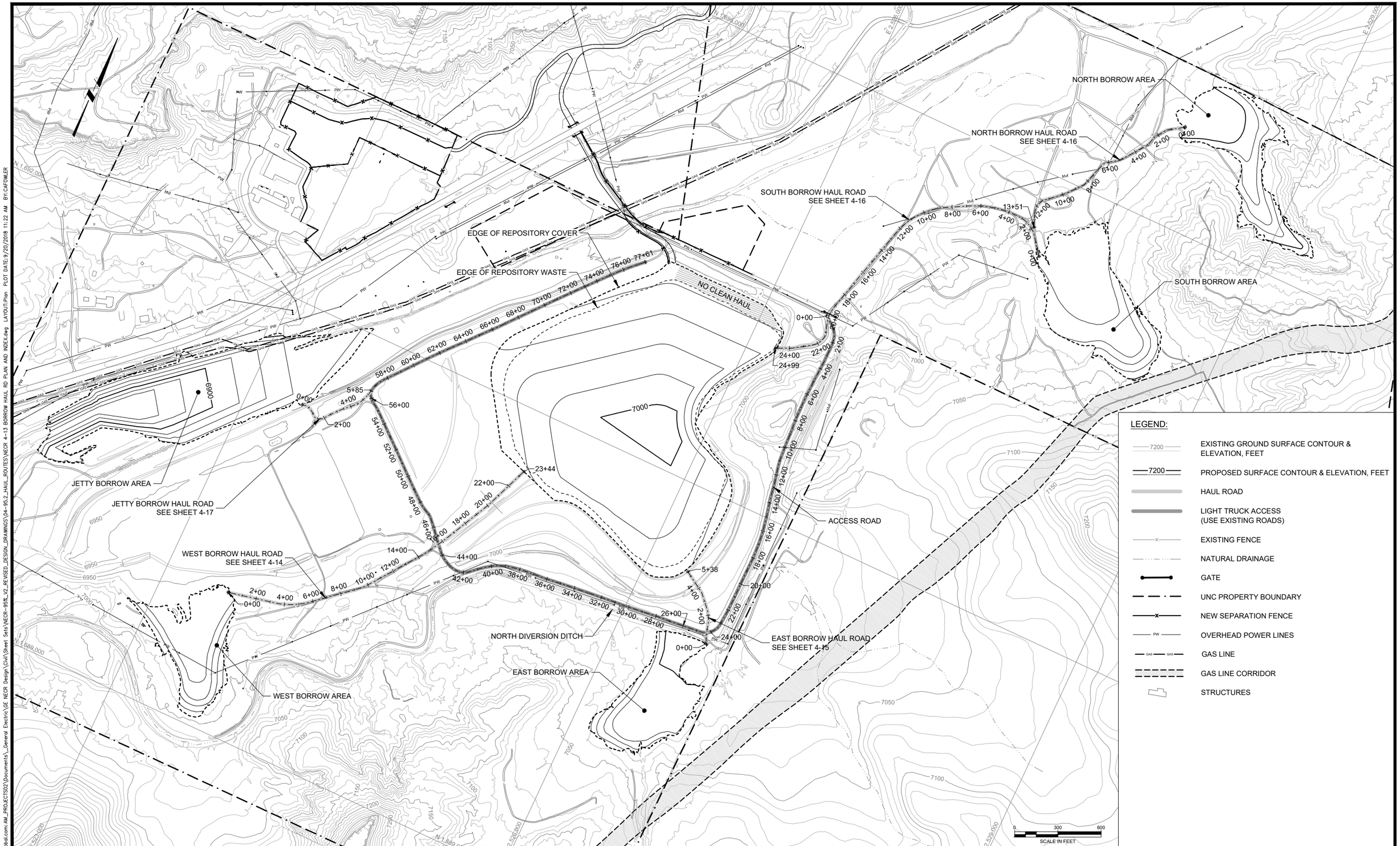

REV	DATE	BY	DESCRIPTION
D	09/24/18	KR	ISSUED FOR LAR
C	04/09/18	KR	ISSUED FOR REVISED 95% DESIGN
B	10/30/17	KR	ISSUED FOR 95% DESIGN
A	07/15/16	KR	ISSUED FOR 30% DESIGN

DESIGNED K REED
CHECKED J COLEMAN
APPROVED J COLEMAN

Stantec

UNITED NUCLEAR CORPORATION AND NORTHEAST CHURCH ROCK MINE
McKINLEY COUNTY, NEW MEXICO

NORTHEAST CHURCH ROCK PROJECT 95% DESIGN
BORROW HAUL ROADS

SHEET
4-13
233001048

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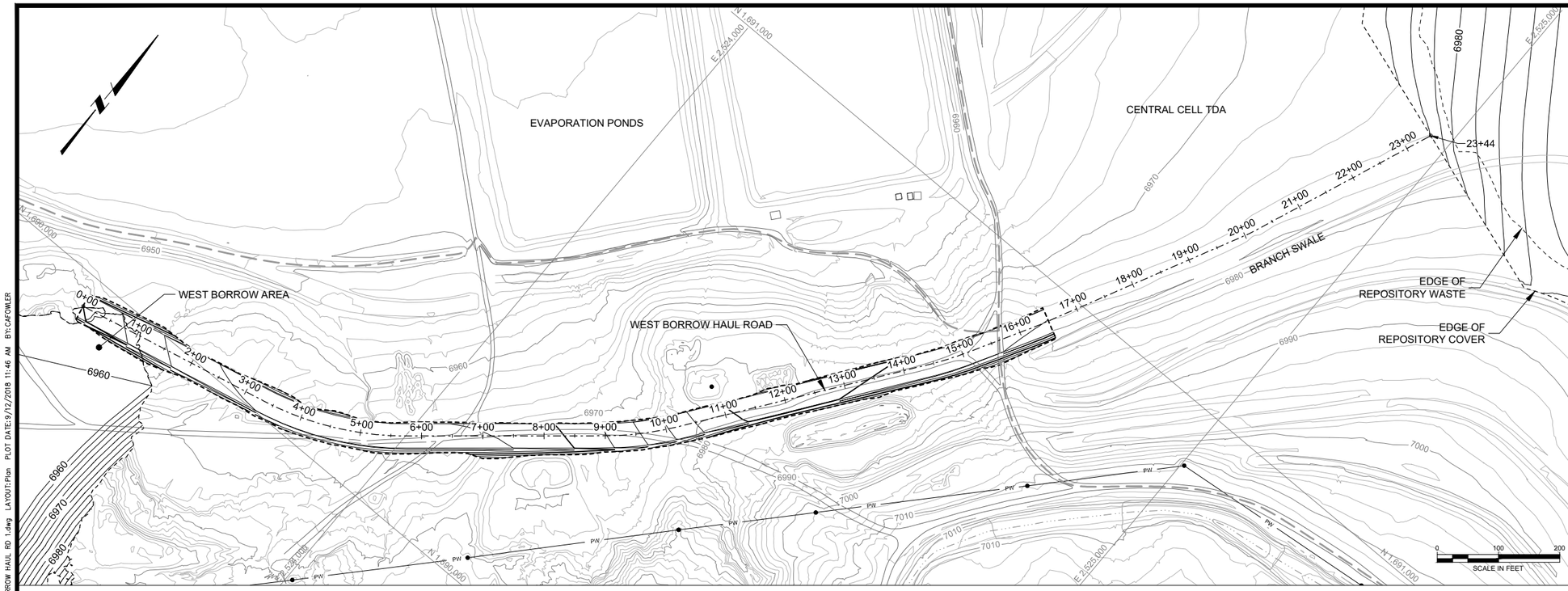


WEST BORROW HAUL ROAD PLAN VIEW

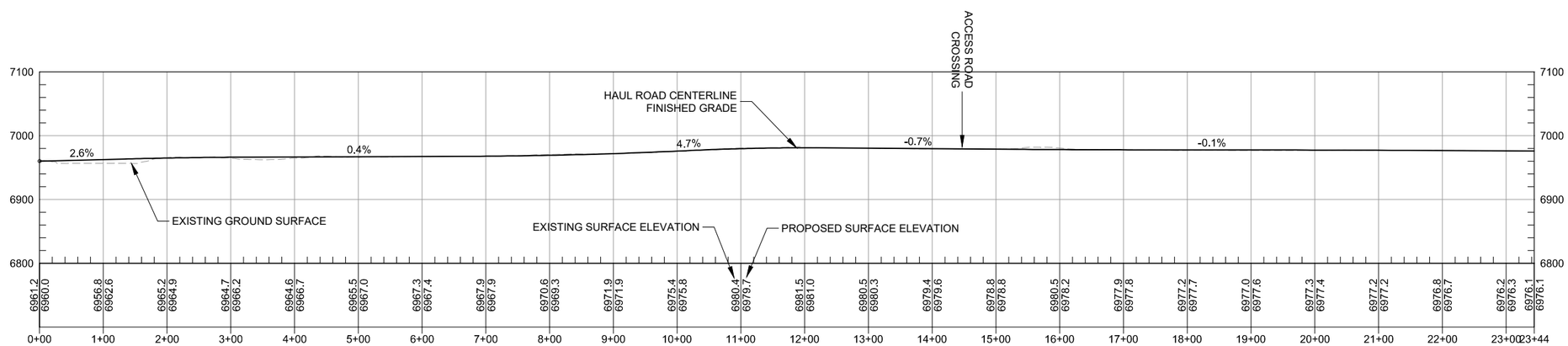
STATION 0+00 TO 22+18

LEGEND:

- 7200 — EXISTING GROUND SURFACE CONTOUR & ELEVATION, FEET
- 7200 — PROPOSED SURFACE CONTOUR & ELEVATION, FEET
- LIMITS OF TAILINGS DISPOSAL AREA
- PW — OVERHEAD POWER LINES
- NATURAL DRAINAGE

NOTE(S):

1. BORROW HAUL ROUTES ON THE EXISTING TDA COVER TO BE DESIGNATED BY CONTRACTOR.
2. TDA COVER BENEATH DESIGNATED HAUL ROUTES SHALL BE RECONSTRUCTED UPON COMPLETION OF CONSTRUCTION TO MITIGATE DAMAGE FROM HAUL TRAFFIC.



WEST BORROW HAUL ROAD PROFILE

STATION 0+00 TO 22+18

HORZ 0 100 200
VERT 0 100 200
SCALE IN FEET

REV	DATE	BY	DESCRIPTION
D	09/24/18	KR	ISSUED FOR LAR
C	04/09/18	KR	ISSUED FOR REVISED 95% DESIGN
B	10/30/18	KR	ISSUED FOR 95% DESIGN
A	07/15/16	KR	ISSUED FOR 30% DESIGN

DESIGNED K REED
CHECKED J COLEMAN
APPROVED J CUMBERS

Stantec

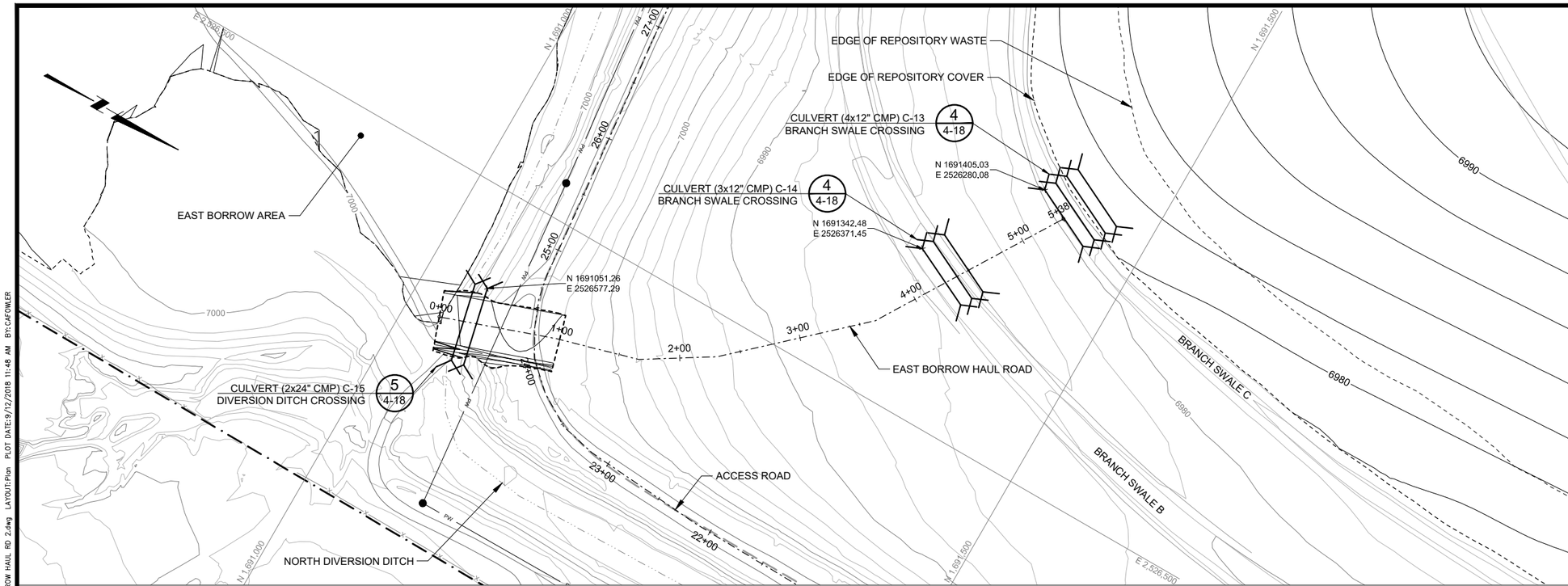
UNITED NUCLEAR CORPORATION AND NORTHEAST CHURCH ROCK MINE
McKINLEY COUNTY, NEW MEXICO

NORTHEAST CHURCH ROCK PROJECT 95% DESIGN
WEST BORROW HAUL ROAD PLAN AND PROFILE

SHEET 4-14

233001048

p:\\amerpwin103.mwlglobal.com\AM_PROJECTS02\Documents_General Electric\GE NECR Design\Civil\Sheet Sets\NECR-95%_V2_REVISED_DESIGN_DRAWINGS\04-95.2_HAUL_ROUTES\NECR 4-14 BORROW HAUL RD 1.dwg LAYOUT:Plan PLOT DATE:9/12/2018 11:46 AM BY:CAFOWLER



LEGEND:

7200	EXISTING GROUND SURFACE CONTOUR & ELEVATION, FEET
7200	PROPOSED SURFACE CONTOUR & ELEVATION, FEET
	UNC PROPERTY BOUNDARY
	LIMITS OF TAILINGS DISPOSAL AREA
X	EXISTING FENCE
PW	OVERHEAD POWER LINES
	NATURAL DRAINAGE

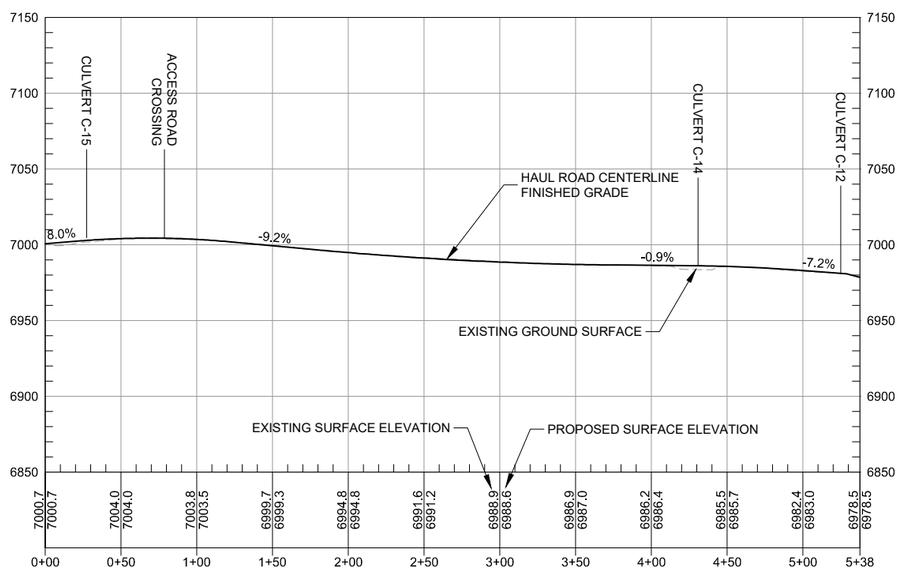
NOTE(S):

1. BORROW HAUL ROUTES ON THE EXISTING TDA COVER TO BE DESIGNATED BY CONTRACTOR.
2. TDA COVER BENEATH DESIGNATED HAUL ROUTES SHALL BE RECONSTRUCTED UPON COMPLETION OF CONSTRUCTION TO MITIGATE DAMAGE FROM HAUL TRAFFIC.
3. BRANCH SWALE CULVERTS SIZED TO 12" CMP.

EAST BORROW HAUL ROAD PLAN VIEW

STATION 0+00 TO 5+38

0 50 100
SCALE IN FEET



EAST BORROW HAUL ROAD PROFILE

STATION 0+00 TO 5+38

HORZ 0 50 100
VERT 0 50 100
SCALE IN FEET

REV	DATE	BY	DESCRIPTION
D	09/24/18	KR	ISSUED FOR LAR
C	04/09/18	KR	ISSUED FOR REVISED 95% DESIGN
B	10/30/17	KR	ISSUED FOR 95% DESIGN
A	07/15/16	KR	ISSUED FOR 30% DESIGN

DESIGNED K REED
CHECKED J COLEMAN
APPROVED J CUMBERS

Stantec

UNITED NUCLEAR CORPORATION AND NORTHEAST CHURCH ROCK MINE
McKINLEY COUNTY, NEW MEXICO

NORTHEAST CHURCH ROCK PROJECT 95% DESIGN
EAST BORROW HAUL ROAD PLAN AND PROFILE

SHEET
4-15
233001048

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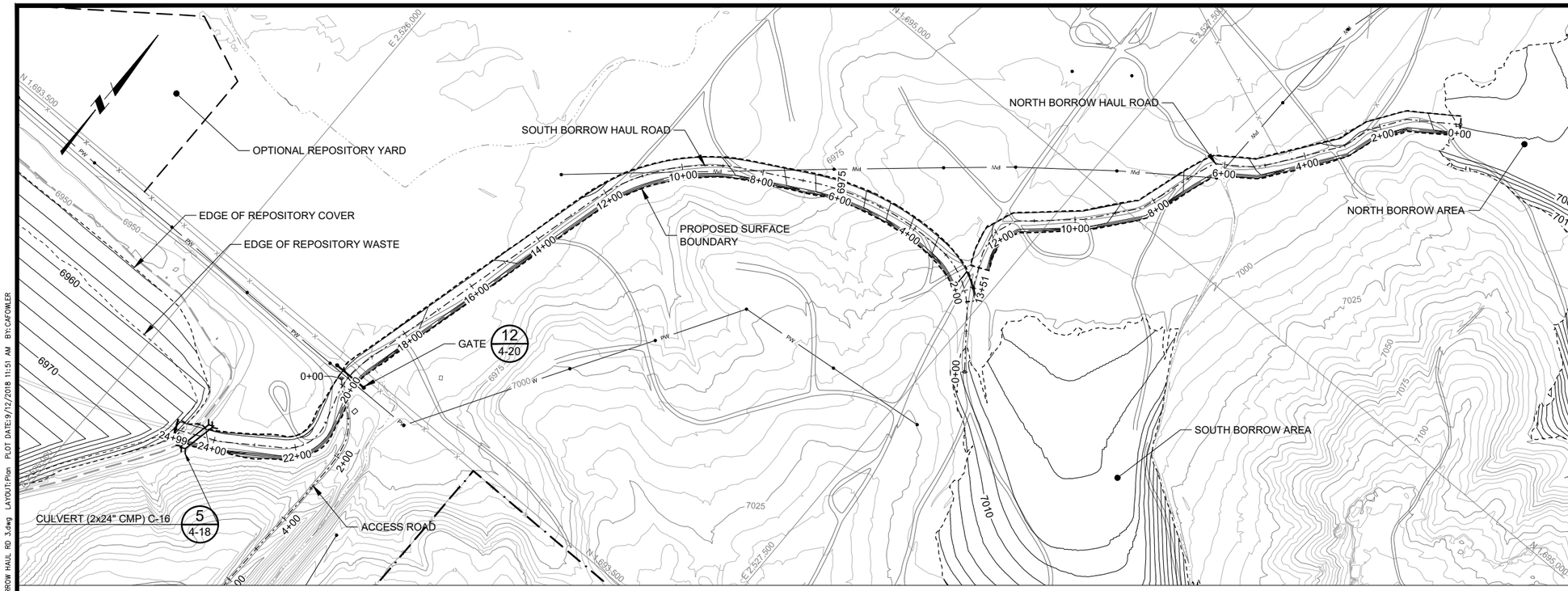


NORTH BORROW HAUL ROAD AND SPUR PLAN VIEW

STATION 0+00 TO 24+99

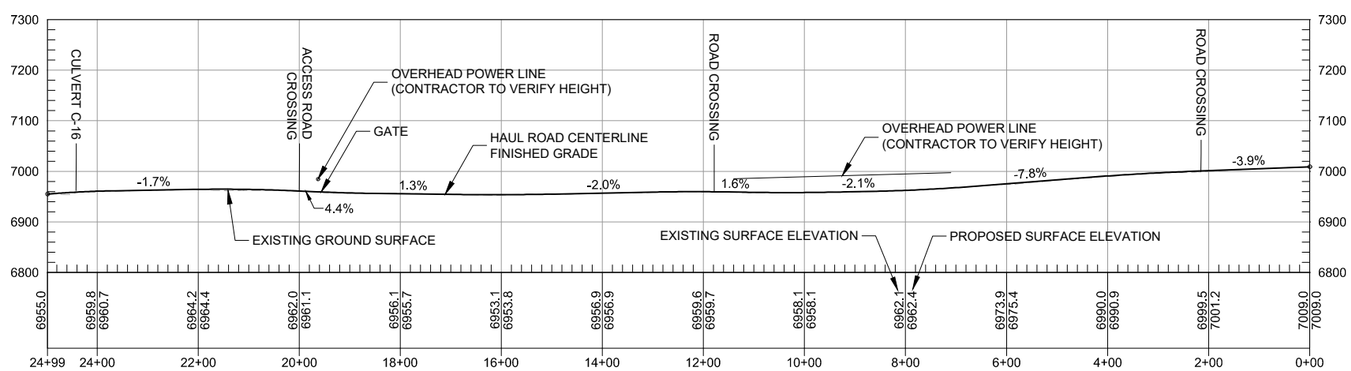
0 150 300
SCALE IN FEET

LEGEND:

- 7200 — EXISTING GROUND SURFACE CONTOUR & ELEVATION, FEET
- 7200 — PROPOSED SURFACE CONTOUR & ELEVATION, FEET
- UNC PROPERTY BOUNDARY
- LIMITS OF TAILINGS DISPOSAL AREA
- EXISTING FENCE
- OVERHEAD POWER LINES
- NATURAL DRAINAGE
- CULVERT

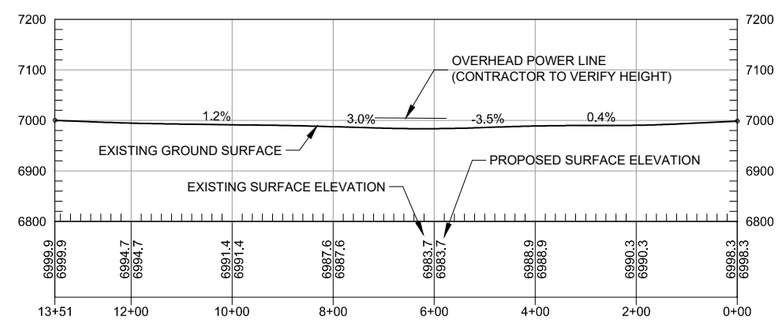
NOTE(S):

1. BORROW HAUL ROUTES ON THE EXISTING TDA COVER TO BE DESIGNATED BY CONTRACTOR.
2. TDA COVER BENEATH DESIGNATED HAUL ROUTES SHALL BE RECONSTRUCTED UPON COMPLETION OF CONSTRUCTION TO MITIGATE DAMAGE FROM HAUL TRAFFIC.
3. THE NORTH BORROW HAUL ROAD TERMINATES AT THE BORROW AREA ENTRANCE, WHERE IT WILL BE SUBJECT TO FIELD GRADING DURING BORROW EXCAVATION.



SOUTH BORROW HAUL ROAD PROFILE

STATION 0+00 TO 24+99



NORTH BORROW HAUL ROAD PROFILE

STATION 0+00 TO 12+69

HORZ 0 150 300
VERT 0 150 300
SCALE IN FEET

REV	DATE	BY	DESCRIPTION
D	09/24/18	KR	ISSUED FOR LAR
C	04/09/18	KR	ISSUED FOR REVISED 95% DESIGN
B	10/30/17	KR	ISSUED FOR 95% DESIGN
A	07/15/16	KR	ISSUED FOR 30% DESIGN

DESIGNED K REED
CHECKED J COLEMAN
APPROVED J CUMBERS

Stantec

UNITED NUCLEAR CORPORATION AND NORTHEAST CHURCH ROCK MINE
McKINLEY COUNTY, NEW MEXICO

NORTHEAST CHURCH ROCK PROJECT 95% DESIGN
NORTH BORROW HAUL ROAD PLAN AND PROFILE

SHEET
4-16
233001048

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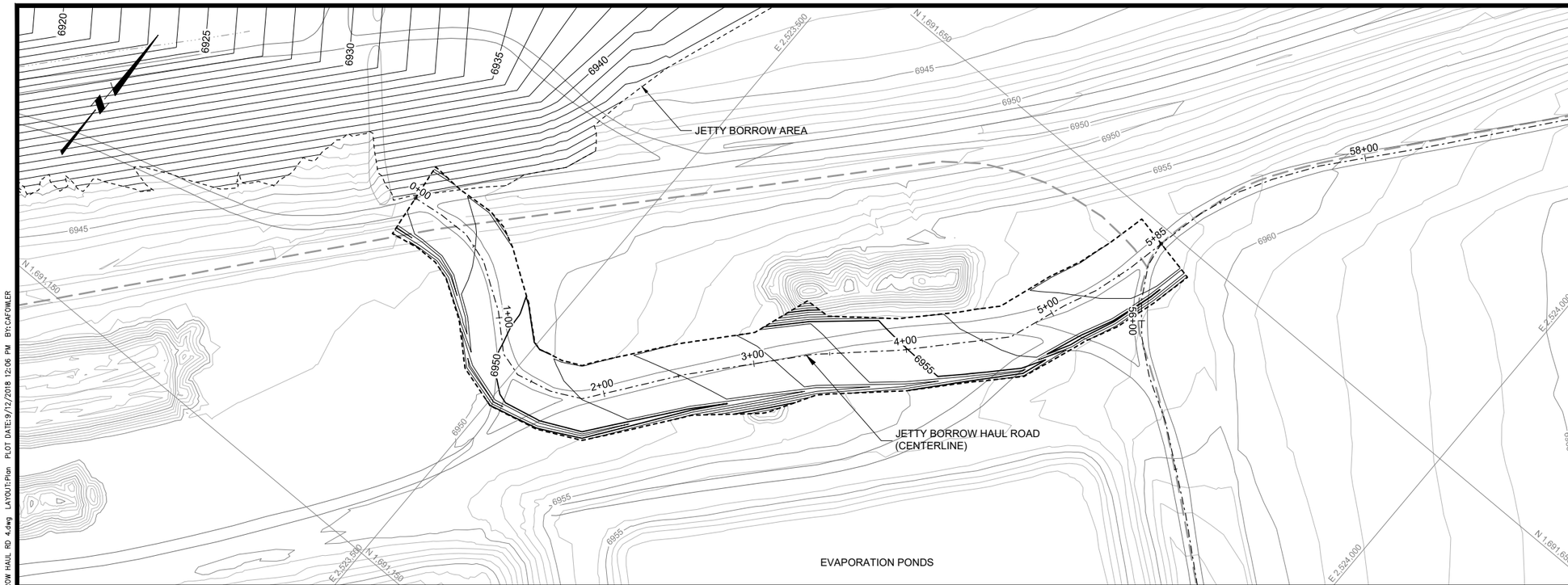


LEGEND:

- 7200 — EXISTING GROUND SURFACE CONTOUR & ELEVATION, FEET
- 7200 — PROPOSED SURFACE CONTOUR & ELEVATION, FEET
- LIMITS OF TAILINGS DISPOSAL AREA
- PW — OVERHEAD POWER LINES
- NATURAL DRAINAGE

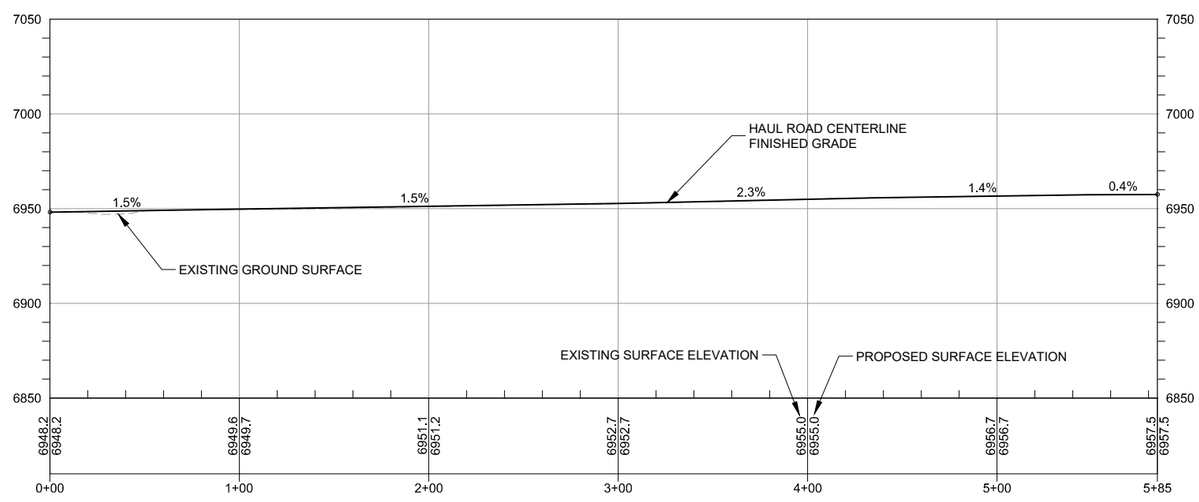
NOTE(S):

1. BORROW HAUL ROUTES ON THE EXISTING TDA COVER TO BE DESIGNATED BY CONTRACTOR.
2. TDA COVER BENEATH DESIGNATED HAUL ROUTES SHALL BE RECONSTRUCTED UPON COMPLETION OF CONSTRUCTION TO MITIGATE DAMAGE FROM HAUL TRAFFIC.

JETTY BORROW HAUL ROAD PLAN VIEW

STATION 0+00 TO 24+99

0 40 80
SCALE IN FEET



JETTY BORROW HAUL ROAD PROFILE

STATION 0+00 TO 5+85

HORZ 0 40 80
VERT 0 40 80
SCALE IN FEET

REV	DATE	BY	DESCRIPTION
D	09/24/18	KR	ISSUED FOR LAR
C	04/09/18	KR	ISSUED FOR REVISED 95% DESIGN
B	10/30/17	KR	ISSUED FOR 95% DESIGN
A	07/15/16	KR	ISSUED FOR 30% DESIGN

DESIGNED K REED
CHECKED J COLEMAN
APPROVED J CUMBERS

Stantec

UNITED NUCLEAR CORPORATION AND NORTHEAST CHURCH ROCK MINE
McKINLEY COUNTY, NEW MEXICO

NORTHEAST CHURCH ROCK PROJECT 95% DESIGN
NORTH BORROW HAUL ROAD PLAN AND PROFILE

SHEET
4-17
233001048

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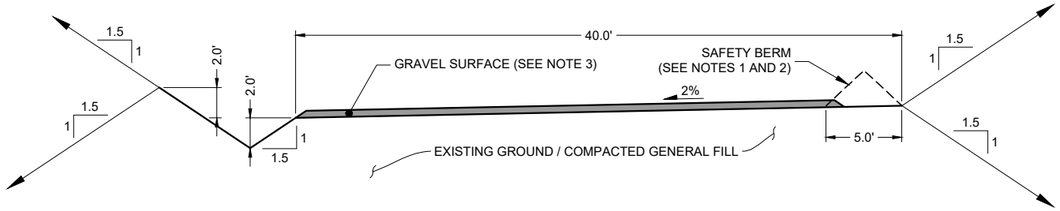
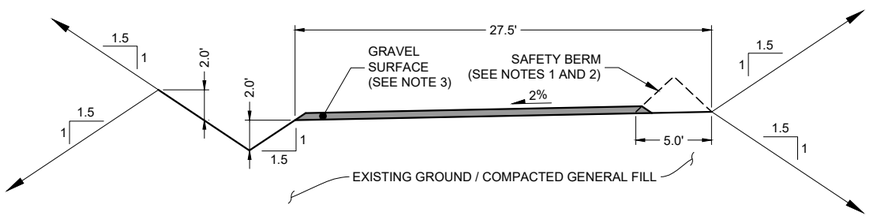
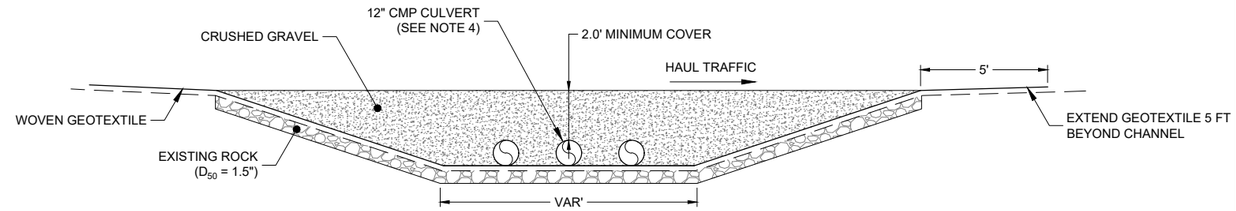


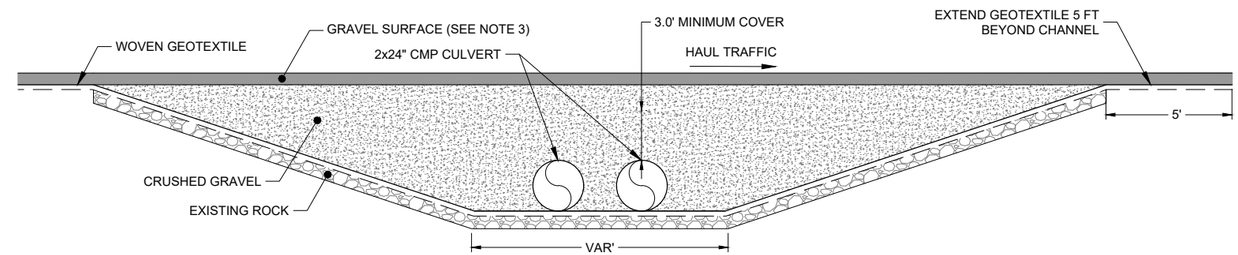
1 / 4-18 TWO-LANE ROAD TYPICAL CROSS SECTION
HAUL AND ACCESS ROADS



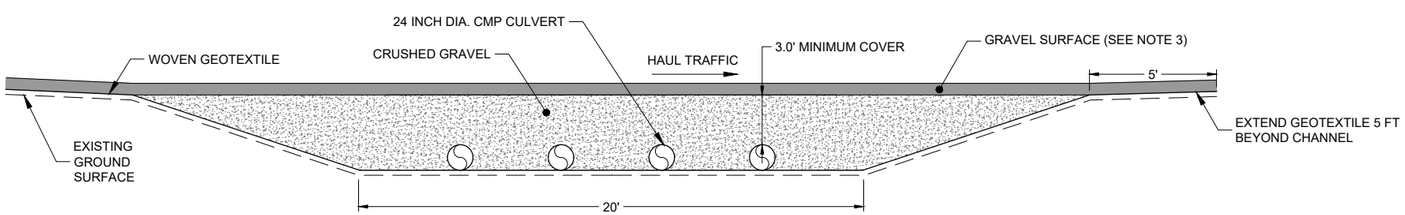
2 / 4-18 ONE-LANE ROAD TYPICAL CROSS SECTION
HAUL AND ACCESS ROADS



4 / 4-18 TYPICAL BRANCH SWALE CROSSING DETAIL



5 / 4-18 TYPICAL DIVERSION DITCH CROSSING DETAIL



3 / 4-18 PIPELINE ARROYO CROSSING DETAIL

NOTES:

1. SAFETY BERM SHALL BE PROVIDED WHERE A DROPOFF EXISTS OF SUFFICIENT GRADE OR DEPTH TO CAUSE A VEHICLE TO OVERTURN OR ENDANGER THE OPERATOR.
2. SAFETY BERM SHALL BE MID-AXLE HEIGHT OF LARGEST EQUIPMENT THAT TRAVELS THE ROAD.
3. 4-INCH THICK LAYER OF GRAVEL SURFACING SHALL BE ADDED WHERE NOTED IN SPECIFICATIONS.
4. BRANCH SWALE CROSSINGS USE EITHER THREE OR FOUR 12" CMP CULVERTS. SEE SHEET 4-15 FOR NUMBER OF CULVERTS

TABLE CULVERT DESIGN PARAMETERS

CULVERT ID	APPROXIMATE STATION (FT)	DESIGN DIAMETER (INCH)	NUMBER OF PIPE(S)	MINIMUM SLOPE (FT/FT)
C-01	2+20	24	1	1.75%
C-02	5+50	24	3	1.75%
C-03	10+90	24	1	1.75%
C-04	14+50	24	1	1.75%
C-05	23+80	24	1	1.75%
C-06	30+20	24	1	1.75%
C-07	9+40 (SPUR)	24	1	1.75%
C-08	2+50 (SPUR)	24	1	1.75%
C-09	0+30 (SPUR)	24	3	1.75%
C-10	36+50	24	1	1.75%
C-11	44+80	24	4	0%
C-12	48+40	24	3	0%
C-13	5+38 (EAST BORROW ROAD)	12	4	1.75%
C-14	4+30 (EAST BORROW ROAD)	12	3	1%
C-15	0+50 (EAST BORROW ROAD)	24	2	1.75%
C-16	24+50 (NORTH BORROW ROAD)	24	2	1.75%

REV	DATE	BY	DESCRIPTION
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B	10/30/17	KR	ISSUED FOR 95% DESIGN
A	07/15/16	KR	ISSUED FOR 30% DESIGN

DESIGNED K REED
CHECKED J COLEMAN
APPROVED J CUMBERS

Stantec

UNITED NUCLEAR CORPORATION AND NORTHEAST CHURCH ROCK MINE
McKINLEY COUNTY, NEW MEXICO

NORTHEAST CHURCH ROCK PROJECT 95% DESIGN
TYPICAL CROSS SECTIONS AND DETAILS (1 OF 2)

SHEET
4-18
233001048

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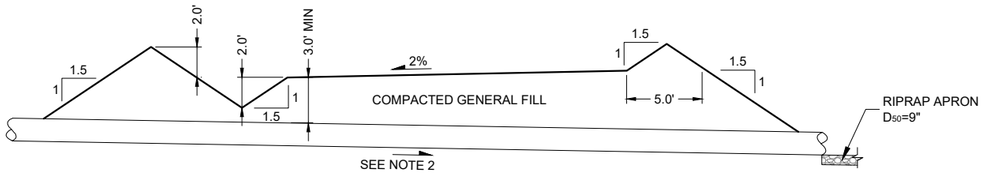
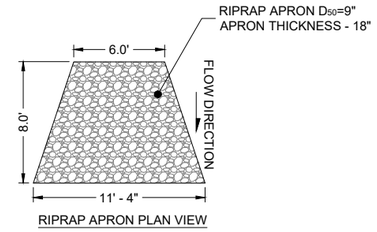
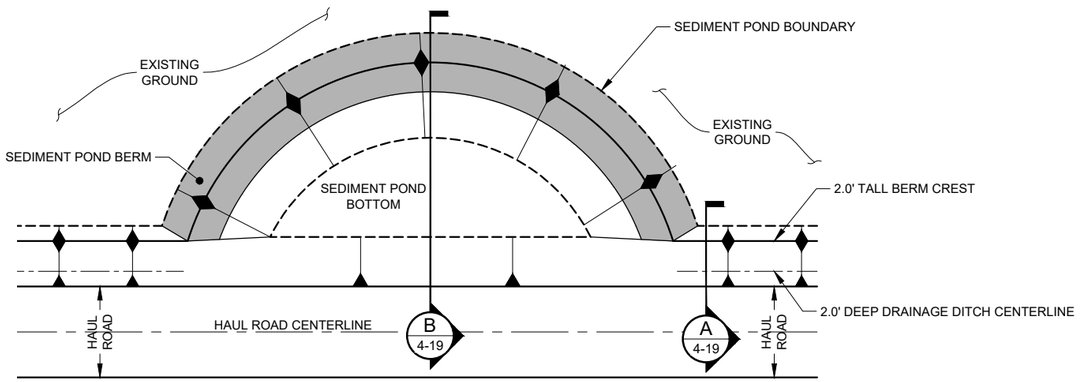
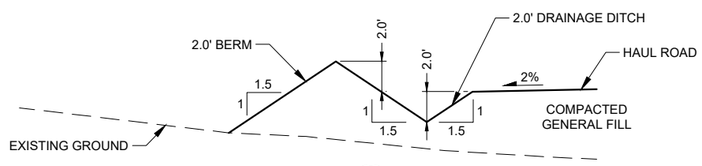




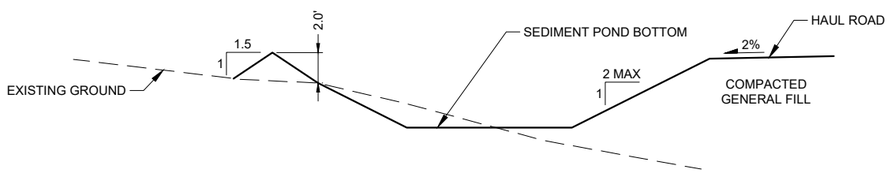
6 / 4-19 HAUL ROAD CULVERT CROSSING TYPICAL CROSS SECTION



PLAN VIEW



A 4-19 SECTION

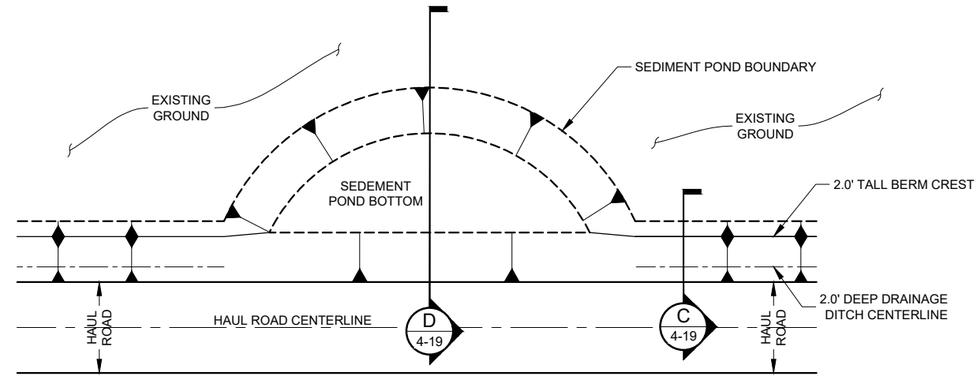


B 4-19 SECTION

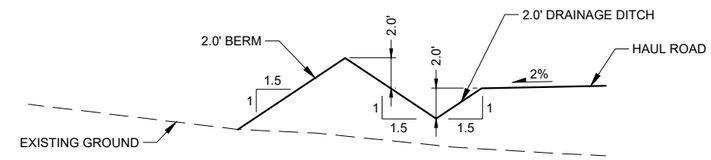
7 / 4-19 TYPICAL STORMWATER POND WITH BERM

NOTE(S):

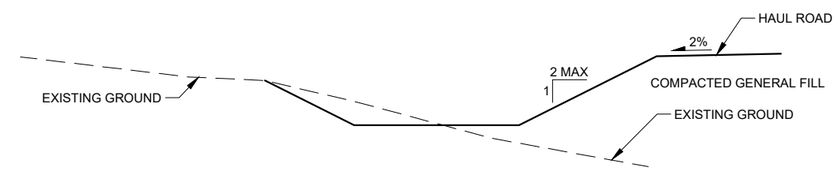
1. RAISE HAUL ROAD TO ACCOMMODATE 3.0' MINIMUM COVER OVER CULVERT PIPES. CULVERT TO BE LAID AS CLOSE AS POSSIBLE TO EXISTING TERRAIN WHILE MAINTAINING THE MINIMUM SLOPE.
2. SEE TABLE FOR CULVERT SIZING, NUMBER OF PIPES, AND MINIMUM CULVERT SLOPES (SHEET 4-18).
3. SEE SHEET 4-11 FOR TABLE WITH STORMWATER POND SIZING.
4. SEE HAUL ROAD PLAN SHEETS FOR DIVERSION BERM HEIGHTS.



PLAN VIEW

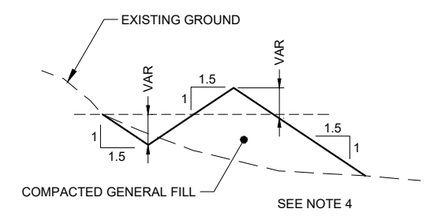


C 4-19 SECTION



D 4-19 SECTION

8 / 4-19 TYPICAL STORMWATER POND WITHOUT BERM



9 / 4-19 TYPICAL DIVERSION BERM

REV	DATE	BY	DESCRIPTION
C	04/09/18	KR	ISSUED FOR REVISED 95% DESIGN
B	10/30/17	KR	ISSUED FOR 95% DESIGN
A	07/15/16	KR	ISSUED FOR 30% DESIGN

DESIGNED K REED
CHECKED J COLEMAN
APPROVED J CUMBERS

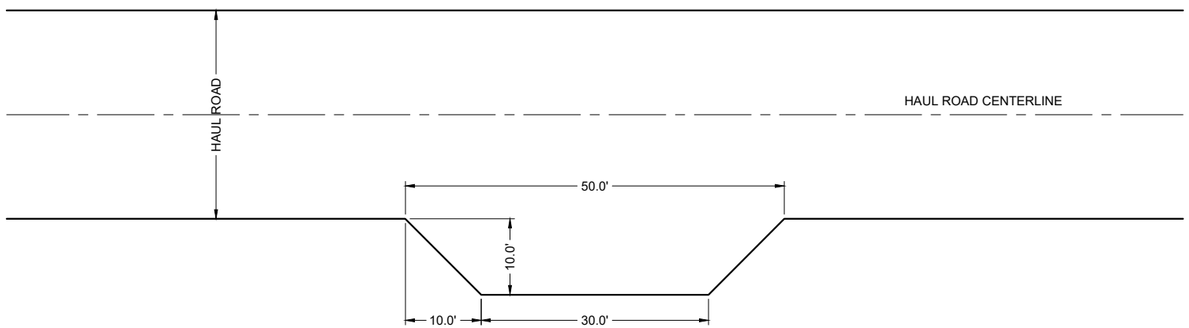
Stantec

UNITED NUCLEAR CORPORATION AND NORTHEAST CHURCH ROCK MINE
McKINLEY COUNTY, NEW MEXICO

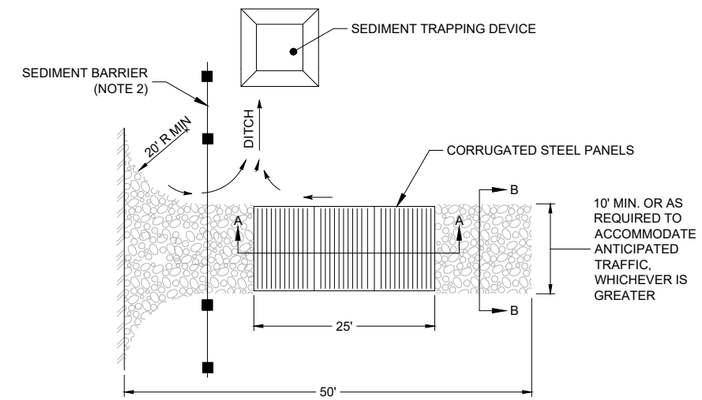
NORTHEAST CHURCH ROCK PROJECT 95% DESIGN
TYPICAL CROSS SECTIONS AND DETAILS (2 OF 2)

SHEET
4-19
233001048

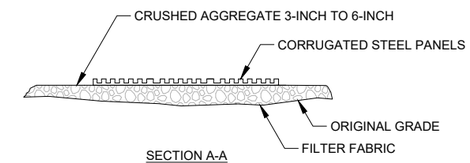
pw:\\pmerpwint03.mwhglobal.com:AM_PROJECTS02\Documents_General Electric\GE NECR Design\Civil\Sheet Sets\NECR-95%_V2_REVISED_DESIGN_DRAWINGS\04-95.2_HAUL_ROUTES\NECR 4-19 CROSS SECTIONS.dwg LAYOUT:Plan PLOT DATE:9/13/2018 1:19 PM BY:CAFOWLER



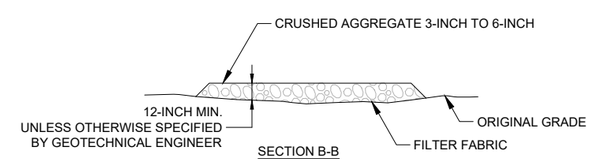
10 / 4-20 HAUL ROAD TURN OUT DETAIL



PLAN
NOT TO SCALE

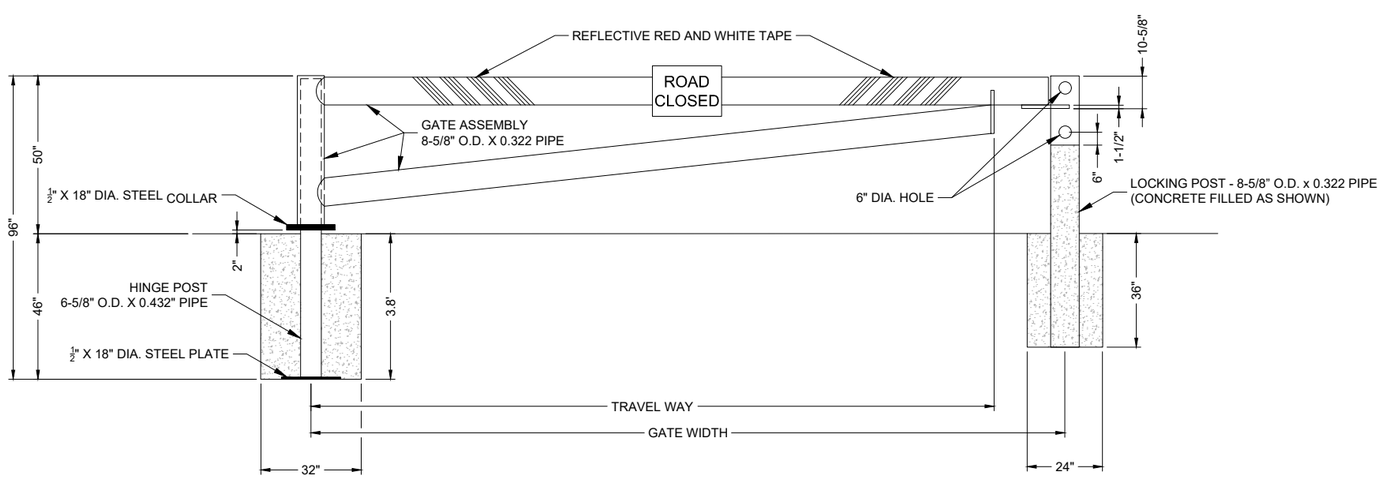


SECTION A-A
NOT TO SCALE



SECTION B-B
NOT TO SCALE

11 / 4-20 MUD GRATE DETAIL
(SEE NOTE 1)



12 / 4-20 GATE DETAIL
(SEE NOTE 1)

NOTE:

1. CONTRACTOR TO SUBMIT SHOP DRAWING FOR ENGINEER REVIEW.
2. CONSTRUCT SEDIMENT BARRIER AND CHANNELIZE RUNOFF TO SEDIMENT TRAPPING DEVICE.

REV	DATE	BY	DESCRIPTION
C	04/09/18	KR	ISSUED FOR REVISED 95% DESIGN

DESIGNED K REED
CHECKED J COLEMAN
APPROVED J CUMBERS

Stantec

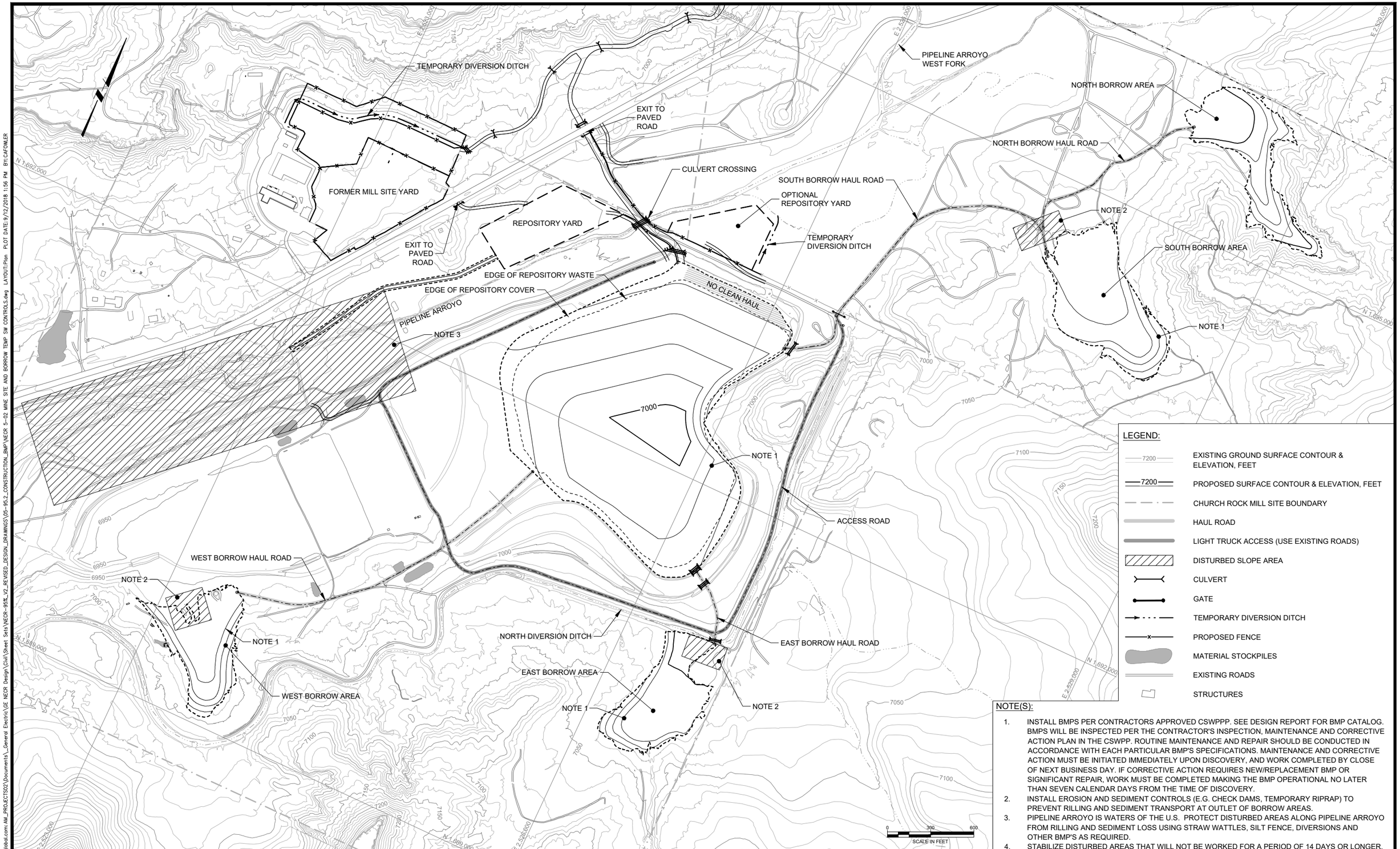
UNITED NUCLEAR CORPORATION AND NORTHEAST CHURCH ROCK MINE
McKINLEY COUNTY, NEW MEXICO

NORTHEAST CHURCH ROCK PROJECT 95% DESIGN
DETAILS

SHEET 4-20

233001048

pw:\\amerpwint03.mwlglobal.com:AM_PROJECTS02\Documents_General Electric\GE NECR Design\Civil\Sheet Sets\NECR-95%_V2_REVISED_DESIGN_DRAWINGS\04-95.2_HAUL_ROUTES\NECR 4-20 DETAILS.dwg LAYOUT:Details PLOT DATE:9/13/2018 2:37 PM BY:CAFOWLER



LEGEND:

- 7200 — EXISTING GROUND SURFACE CONTOUR & ELEVATION, FEET
- 7200 — PROPOSED SURFACE CONTOUR & ELEVATION, FEET
- CHURCH ROCK MILL SITE BOUNDARY
- HAUL ROAD
- LIGHT TRUCK ACCESS (USE EXISTING ROADS)
- DISTURBED SLOPE AREA
- CULVERT
- GATE
- TEMPORARY DIVERSION DITCH
- PROPOSED FENCE
- MATERIAL STOCKPILES
- EXISTING ROADS
- STRUCTURES

NOTE(S):

1. INSTALL BMPS PER CONTRACTORS APPROVED CSWPPP. SEE DESIGN REPORT FOR BMP CATALOG. BMPS WILL BE INSPECTED PER THE CONTRACTOR'S INSPECTION, MAINTENANCE AND CORRECTIVE ACTION PLAN IN THE CSWPP. ROUTINE MAINTENANCE AND REPAIR SHOULD BE CONDUCTED IN ACCORDANCE WITH EACH PARTICULAR BMP'S SPECIFICATIONS. MAINTENANCE AND CORRECTIVE ACTION MUST BE INITIATED IMMEDIATELY UPON DISCOVERY, AND WORK COMPLETED BY CLOSE OF NEXT BUSINESS DAY. IF CORRECTIVE ACTION REQUIRES NEW/REPLACEMENT BMP OR SIGNIFICANT REPAIR, WORK MUST BE COMPLETED MAKING THE BMP OPERATIONAL NO LATER THAN SEVEN CALENDAR DAYS FROM THE TIME OF DISCOVERY.
2. INSTALL EROSION AND SEDIMENT CONTROLS (E.G. CHECK DAMS, TEMPORARY RIPRAP) TO PREVENT RILLING AND SEDIMENT TRANSPORT AT OUTLET OF BORROW AREAS.
3. PIPELINE ARROYO IS WATERS OF THE U.S. PROTECT DISTURBED AREAS ALONG PIPELINE ARROYO FROM RILLING AND SEDIMENT LOSS USING STRAW WATTLES, SILT FENCE, DIVERSIONS AND OTHER BMP'S AS REQUIRED.
4. STABILIZE DISTURBED AREAS THAT WILL NOT BE WORKED FOR A PERIOD OF 14 DAYS OR LONGER.

REV	DATE	BY	DESCRIPTION
D	09/24/18	KR	ISSUED FOR LAR
C	04/09/18	RW	ISSUED FOR REVISED 95% DESIGN
B	10/30/17	KR	ISSUED FOR 95% DESIGN
A	07/15/16	JTV	ISSUED FOR 30% DESIGN

DESIGNED J ERICKSON
CHECKED N HAWS
APPROVED J CUMBERS

Stantec

UNITED NUCLEAR CORPORATION AND NORTHEAST CHURCH ROCK MINE
McKINLEY COUNTY, NEW MEXICO

NORTHEAST CHURCH ROCK PROJECT 95% DESIGN
MILL SITE AND BORROW AREAS TEMPORARY STORMWATER CONTROLS

SHEET
5-02
233001048

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LEGEND:

- EXISTING GROUND SURFACE CONTOUR & ELEVATION, FEET
- PROPOSED SUBGRADE SURFACE CONTOUR & ELEVATION, FEET
- UNC PROPERTY BOUNDARY
- EXISTING ROADS
- NATURAL DRAINAGE
- EXISTING FENCE
- EXISTING SWALES
- STRUCTURES

NOTE(S):

1. REPOSITORY REGRADED SUBGRADE IS 6 INCHES BELOW THE EXISTING TDA COVER WITH THE SURFACE SWALES FILLED IN.

REV	DATE	BY	DESCRIPTION
D	09/24/18	KR	ISSUED FOR LAR
C	04/09/18	KR	ISSUED FOR REVISED 95% DESIGN
B	10/30/17	KR	ISSUED FOR 95% DESIGN
A	07/15/16	KR	ISSUED FOR 30% DESIGN

DESIGNED K REED
CHECKED M WITLER
APPROVED J CUMBERS

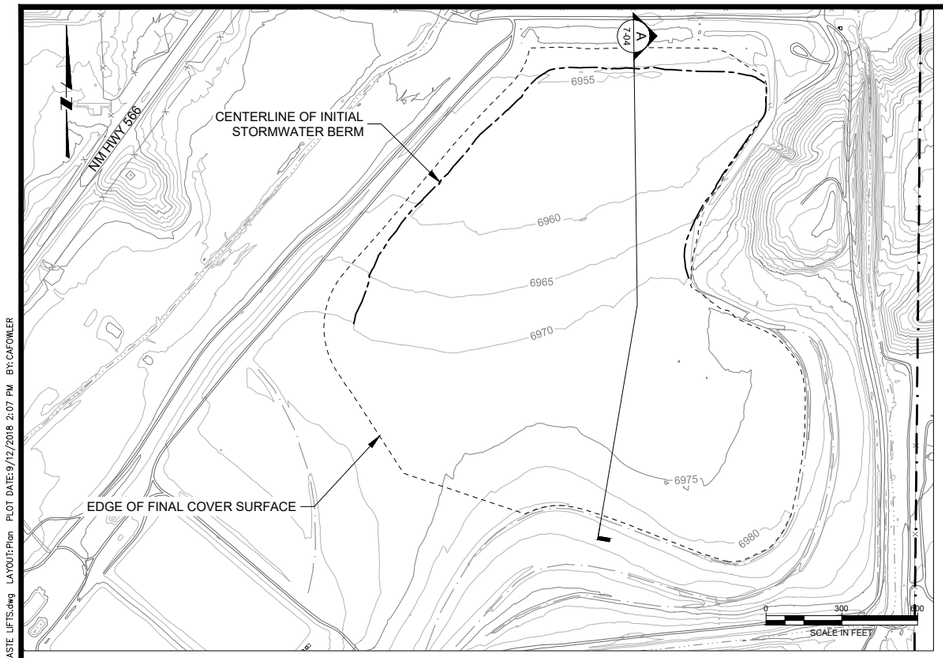
Stantec

UNITED NUCLEAR CORPORATION AND NORTHEAST CHURCH ROCK MINE
McKINLEY COUNTY, NEW MEXICO

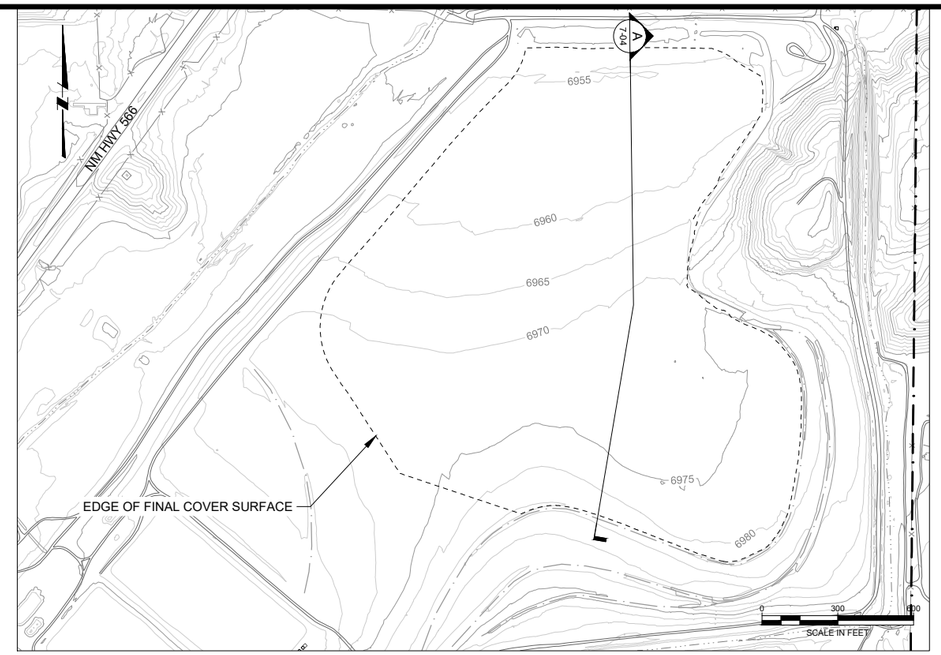
NORTHEAST CHURCH ROCK PROJECT 95% DESIGN
REPOSITORY SUBGRADE - EXISTING RADON BARRIER

SHEET
7-01
233001048

pw:\\amerpwint03.mwhglobal.com:AM_PROJECTS92\Documents_General Electric\GE NECR Design\Civil\Sheet Sets\NECR-95%_V2_REVISED_DESIGN_DRAWINGS\07-95.2_WASTE_REPOSITORY_DESIGN\NECR 7-01 REP POST STRIPPING.dwg LAYOUT:Plan PLOT DATE:9/12/2018 2:01 PM BY:CAFOWLER

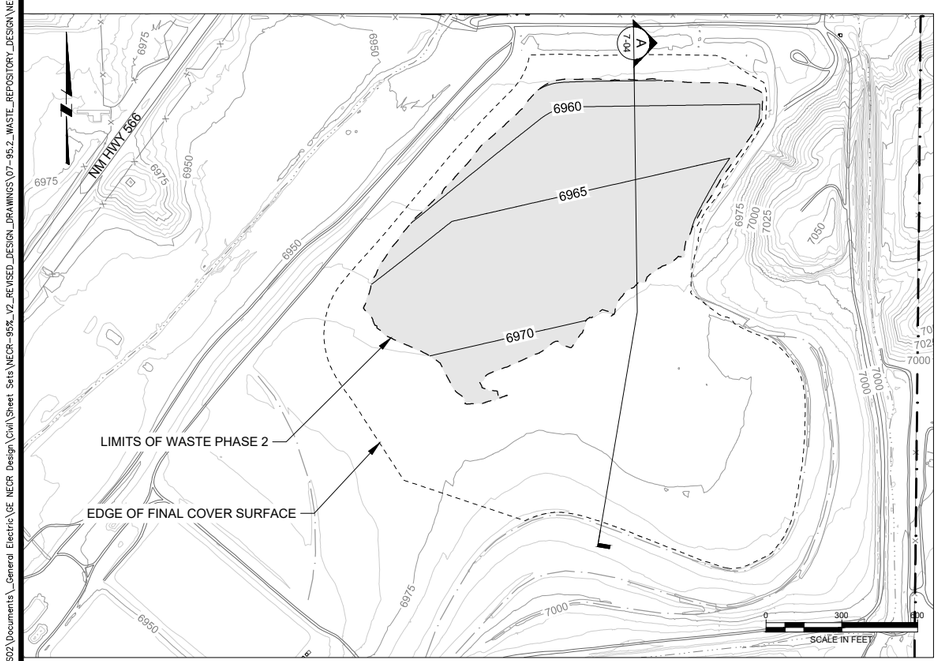


INITIAL STORMWATER CONTROL BERM



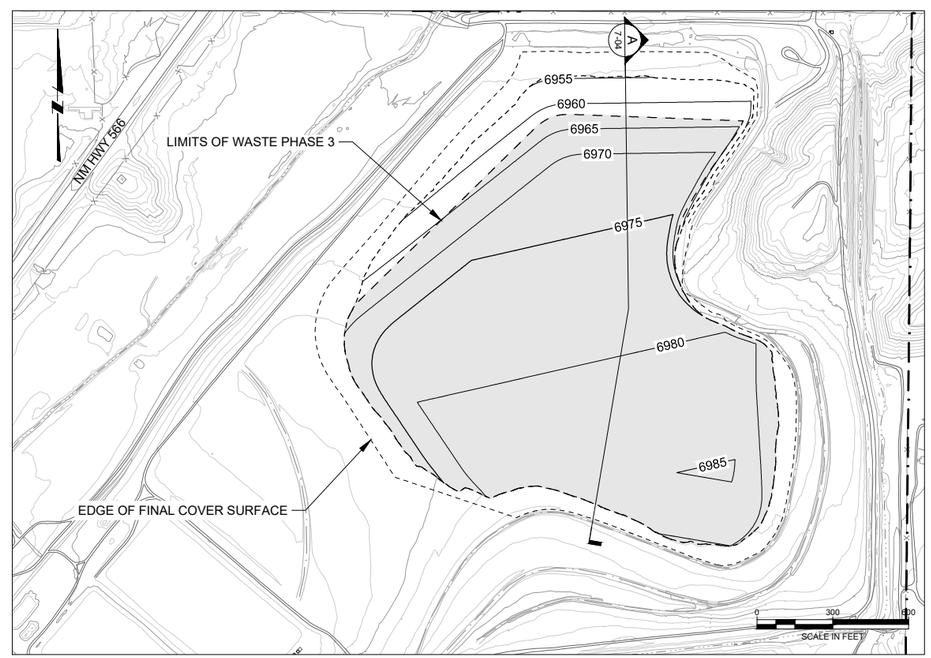
REPOSITORY MINE WASTE PLACEMENT PHASE 1

NO PLANNED PLACEMENT OF MINE WASTE (NOTE 3)



REPOSITORY MINE WASTE PLACEMENT PHASE 2

173,594 CY OF MINE WASTE



REPOSITORY MINE WASTE PLACEMENT PHASE 3

445,559 CY OF MINE WASTE (619,153 CY TOTAL)

LEGEND:

- 7200 — EXISTING GROUND SURFACE CONTOUR & ELEVATION, FEET
- 7200 — PROPOSED WASTE SURFACE CONTOUR & ELEVATION, FEET
- EXISTING ROADS
- NATURAL DRAINAGE
- EXISTING FENCE
- EXISTING SWALES
- STORMWATER BERM
- CURRENT PLACEMENT AREA

NOTE(S):

1. MINE WASTE PLACEMENT PHASES CORRESPOND TO MINE REMOVAL PHASES SHOWN IN SECTION 3. PLACEMENT SHOWN WITHOUT VOLUME REDUCTION FOR COMPACTION.
2. STORMWATER BERMS CONSTRUCTED OF CLEAN BORROW SOIL MEETING COVER MATERIAL SPECIFICATIONS.
3. PHASE 1 PTW TO BE DISPOSED OFFSITE

REV	DATE	BY	DESCRIPTION
D	09/24/18	KR	ISSUED FOR LAR
C	04/09/18	KR	ISSUED FOR REVISED 95% DESIGN
B	10/30/17	KR	ISSUED FOR 95% DESIGN
A	07/15/16	KR	ISSUED FOR 30% DESIGN

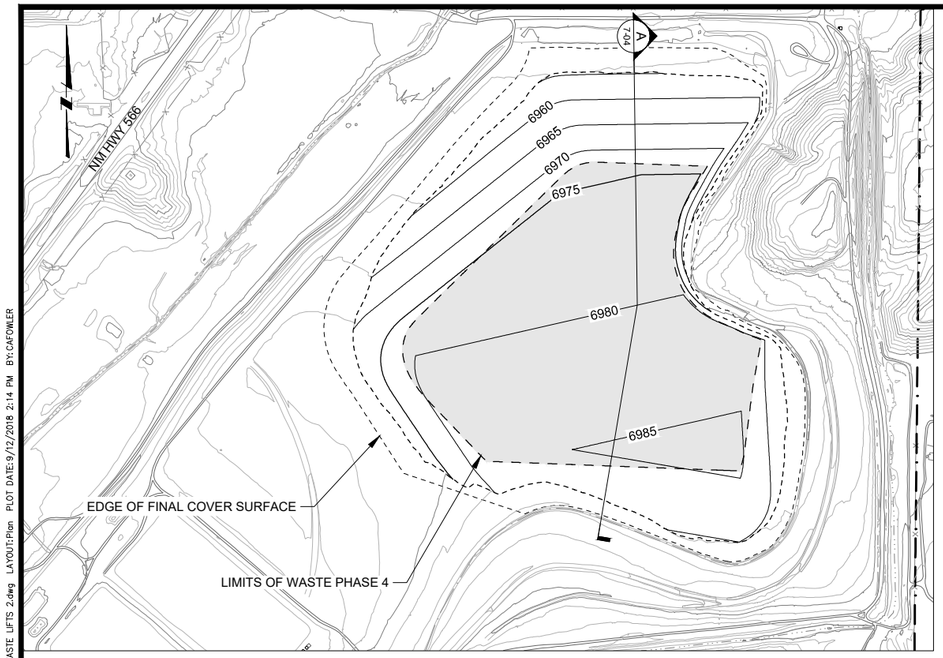
DESIGNED K REED
CHECKED M WITLER
APPROVED J CUMBERS

Stantec

UNITED NUCLEAR CORPORATION AND NORTHEAST CHURCH ROCK MINE
McKINLEY COUNTY, NEW MEXICO
NORTHEAST CHURCH ROCK PROJECT 95% DESIGN
REPOSITORY MINE WASTE FILL BY REMOVAL PHASE
AND TEMPORARY STORMWATER CONTROL BERMS (1 OF 2)

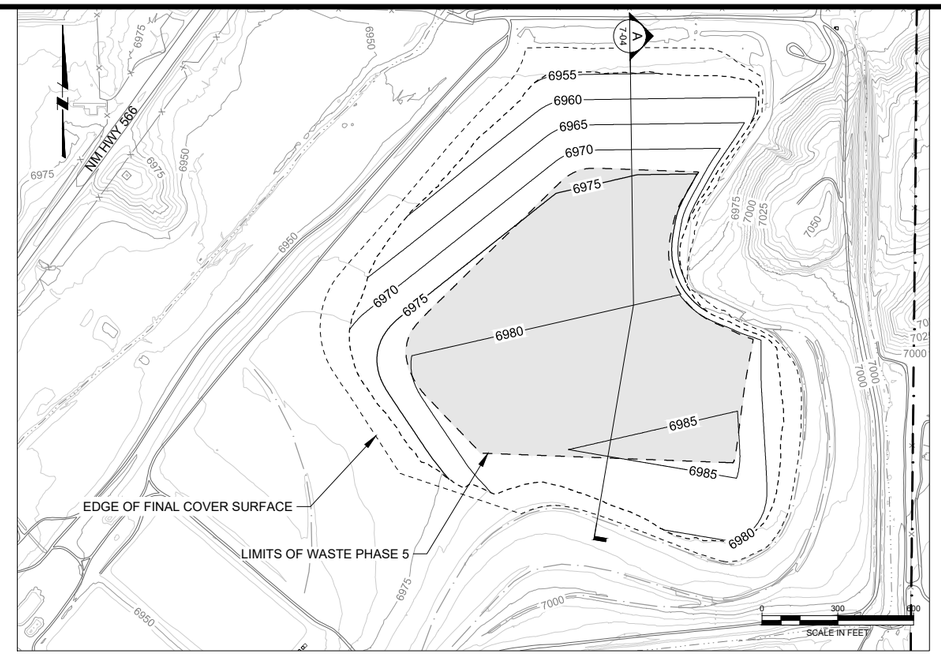
SHEET
7-02
233001048

pw:\\amerpwin103.mwhglobal.com:AM_PROJECTS02\Documents_General Electric\GE NECR Design\Civil\Sheet Sets\NECR-95%_V2_REVISED_DESIGN_DRAWINGS\07-95.2_WASTE_REPOSITORY_DESIGN\NECR 7-02 REP WASTE LIFTS.dwg LAYOUT:Plan PLOT DATE:9/12/2018 2:07 PM BY:CAFOWLER



REPOSITORY MINE WASTE PLACEMENT PHASE 4

43,459 CY OF MINE WASTE (662,612 CY TOTAL)



REPOSITORY MINE WASTE PLACEMENT PHASE 5

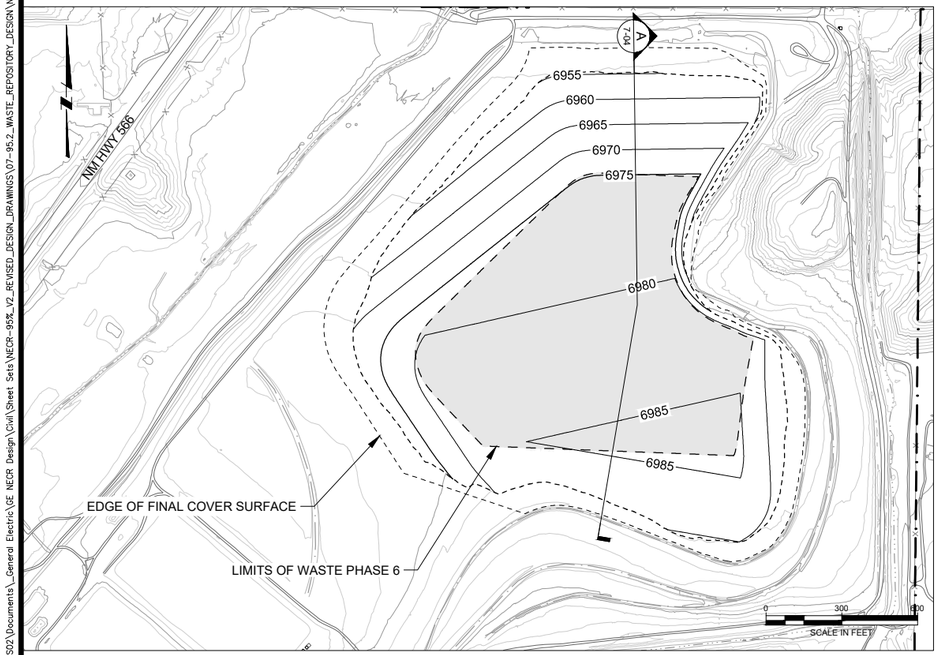
34,272 CY OF MINE WASTE (696,884 CY TOTAL)

LEGEND:

- 7200 — EXISTING GROUND SURFACE CONTOUR & ELEVATION, FEET
- 7200 — PROPOSED WASTE SURFACE CONTOUR & ELEVATION, FEET
- ROADS
- NATURAL DRAINAGE
- EXISTING FENCE
- EXISTING SWALES
- CURRENT PLACEMENT AREA

NOTE(S):

1. MINE WASTE PLACEMENT PHASES CORRESPOND TO REMOVAL PHASES SHOWN IN SECTION 3.



REPOSITORY MINE WASTE PLACEMENT PHASE 6

28,356 CY OF MINE WASTE (725,240 CY TOTAL)

REV	DATE	BY	DESCRIPTION
D	09/24/18	KR	ISSUED FOR LAR
C	04/09/18	KR	ISSUED FOR REVISED 95% DESIGN
B	10/30/17	KR	ISSUED FOR 95% DESIGN
A	07/15/16	KR	ISSUED FOR 30% DESIGN

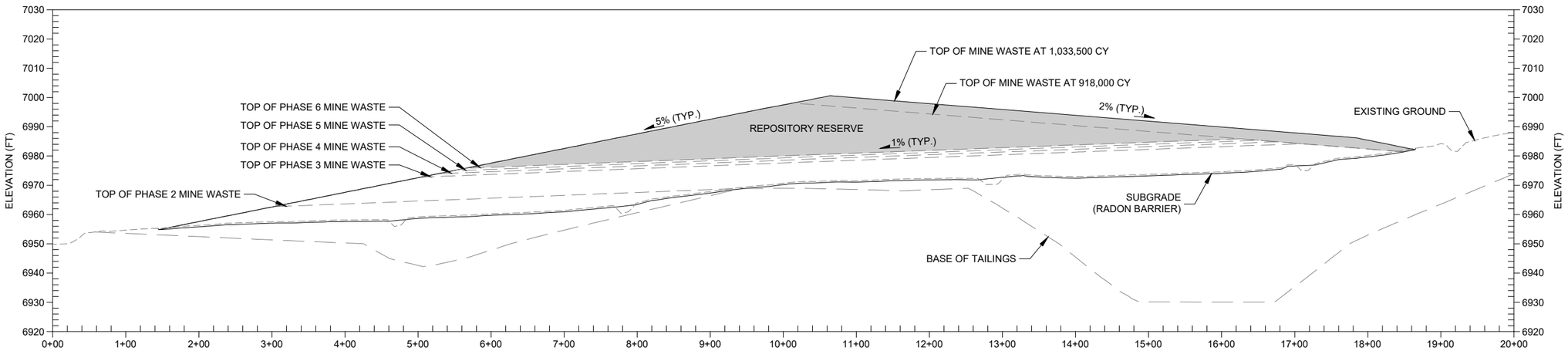
DESIGNED K REED
CHECKED M WITLER
APPROVED J CUMBERS

Stantec

UNITED NUCLEAR CORPORATION AND NORTHEAST CHURCH ROCK MINE
McKINLEY COUNTY, NEW MEXICO
NORTHEAST CHURCH ROCK PROJECT 95% DESIGN
REPOSITORY MINE WASTE FILL BY REMOVAL PHASE
AND TEMPORARY STORMWATER CONTROL BERMS (2 OF 2)

SHEET
7-03
233001048

pw:\\amerpwint03.mwhglobal.com:AM_PROJECTS02\Documents_General Electric\GE NECR Design\Civil\Sheet Sets\NECR-95%_V2_REVISED_DESIGN_DRAWINGS\07-95.2_WASTE_REPOSITORY_DESIGN\NECR 7-03 REP WASTE LIFTS 2.dwg LAYOUT:Plan PLOT DATE:9/12/2018 2:14 PM BY:CAFOWLER



A 7-04 REPOSITORY PROFILE
FILL PROGRESSION

HORZ 0 80 160
VERT 0 20 40
SCALE IN FEET

REV	DATE	BY	DESCRIPTION
C	04/09/18	KR	ISSUED FOR REVISED 95% DESIGN
B	10/30/17	KR	ISSUED FOR 95% DESIGN
A	07/15/16	KR	ISSUED FOR 30% DESIGN

DESIGNED K REED
CHECKED M WITLER
APPROVED J CUMBERS

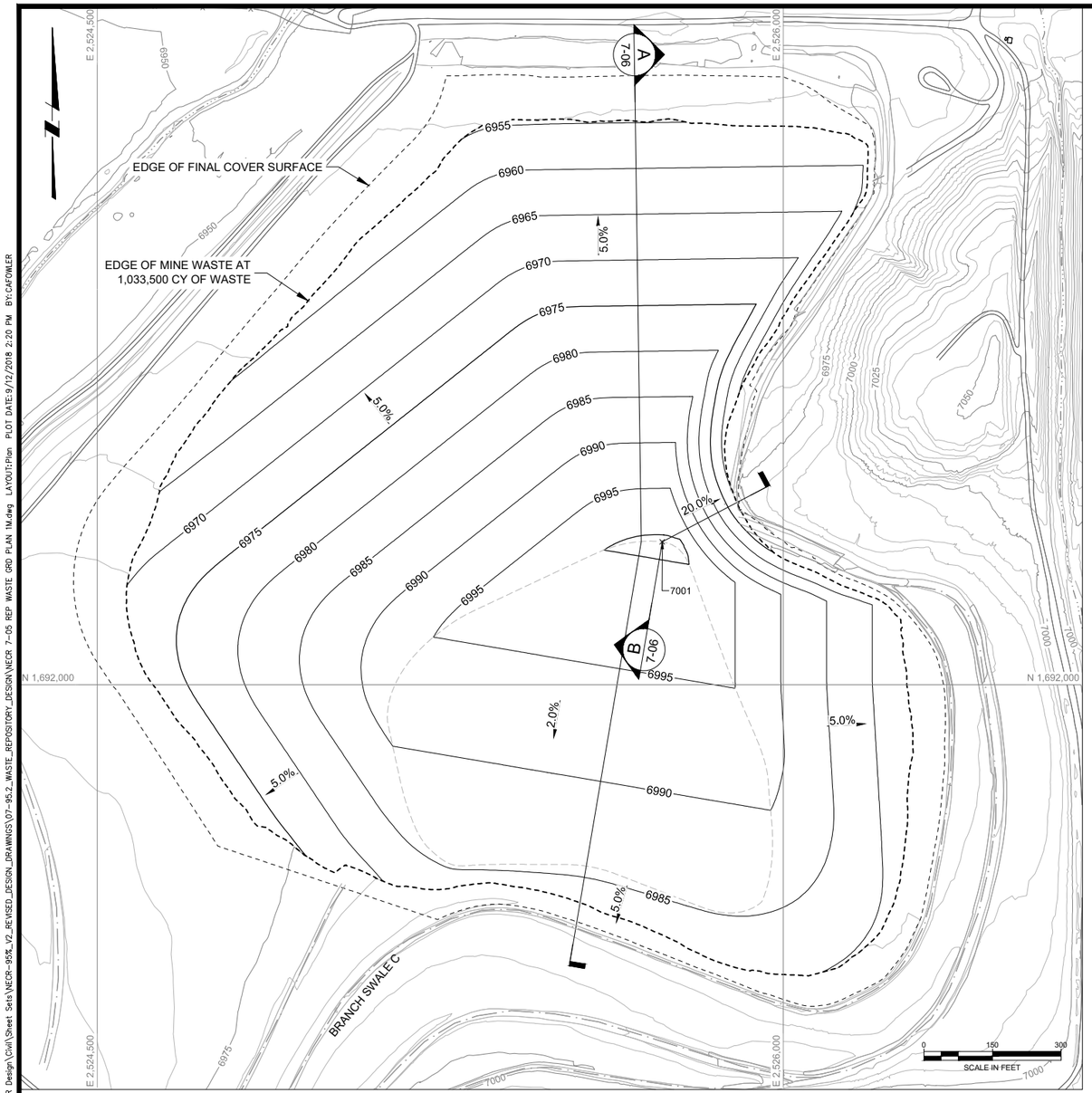
Stantec

UNITED NUCLEAR CORPORATION AND NORTHEAST CHURCH ROCK MINE
McKINLEY COUNTY, NEW MEXICO

NORTHEAST CHURCH ROCK PROJECT 95% DESIGN
REPOSITORY MINE WASTE FILL PROFILE BY REMOVAL PHASE

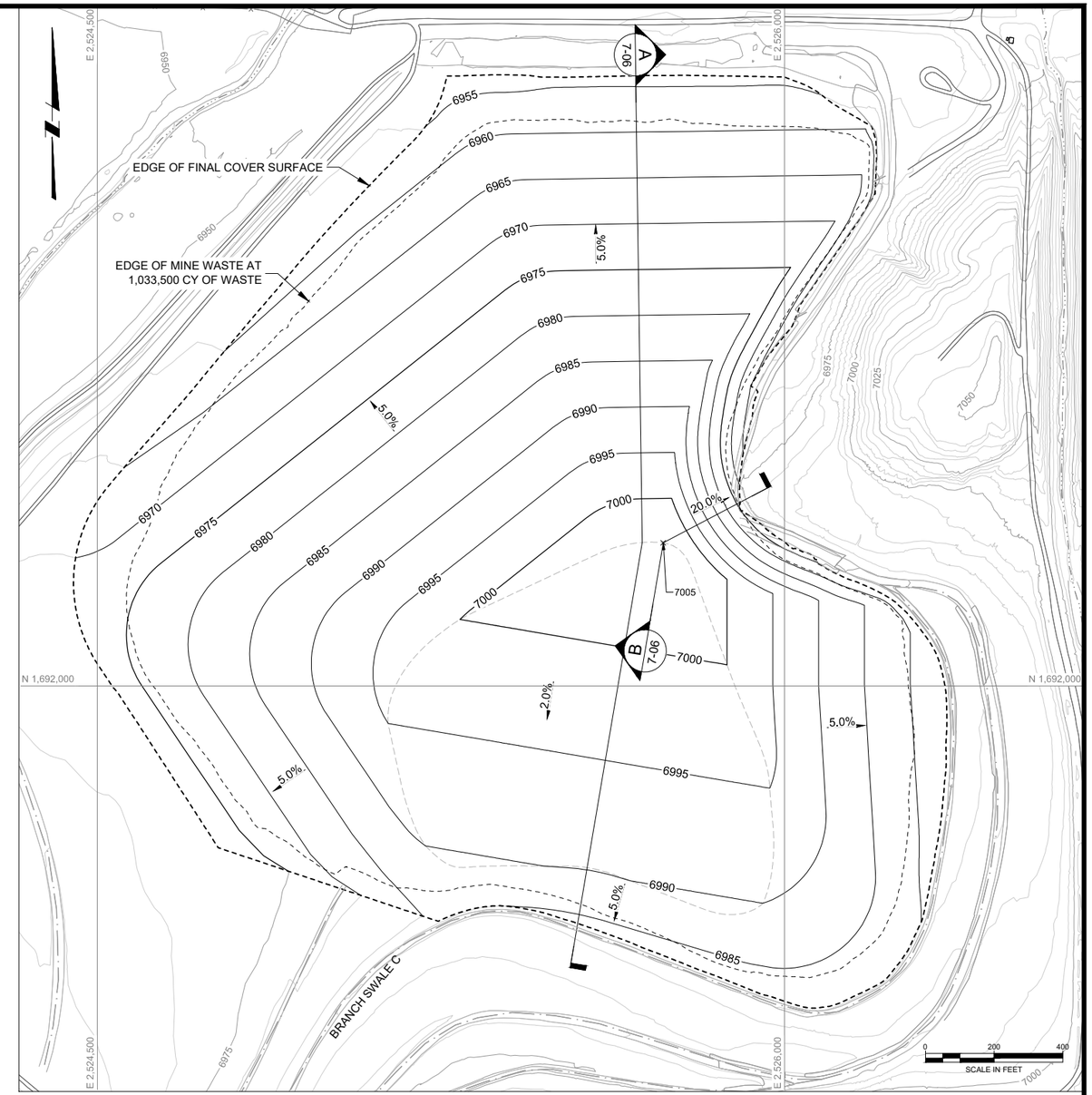
SHEET
7-04
233001048

pw:\\amerpwint03.mwlglobal.com:AM_PROJECTS02\Documents_General Electric\GE NEOR Design\Civil\Sheet Sets\NECR-95%_V2_REVISED_DESIGN_DRAWINGS\07-95.2_WASTE_REPOSITORY_DESIGN\NEOR 7-04 REP LIFT PROFILES.dwg LAYOUT:Profile PLOT DATE:9/13/2018 1:23 PM BY:CAFOWLER



REPOSITORY TOP OF MINE WASTE SURFACE

AT 1,033,500 CY OF MINE WASTE



REPOSITORY TOP OF COVER SURFACE

AT 1,033,500 CY OF MINE WASTE

LEGEND:

- 7200 — EXISTING GROUND SURFACE CONTOUR & ELEVATION, FEET
- 7200 — PROPOSED SURFACE CONTOUR & ELEVATION, FEET
- EXISTING ROADS
- NATURAL DRAINAGE
- EXISTING SWALES
- STRUCTURES

REV	DATE	BY	DESCRIPTION
D	09/24/18	KR	ISSUED FOR LAR
C	04/09/18	KR	ISSUED FOR REVISED 95% DESIGN
B	10/30/17	KR	ISSUED FOR 95% DESIGN
A	07/15/16	KR	ISSUED FOR 30% DESIGN

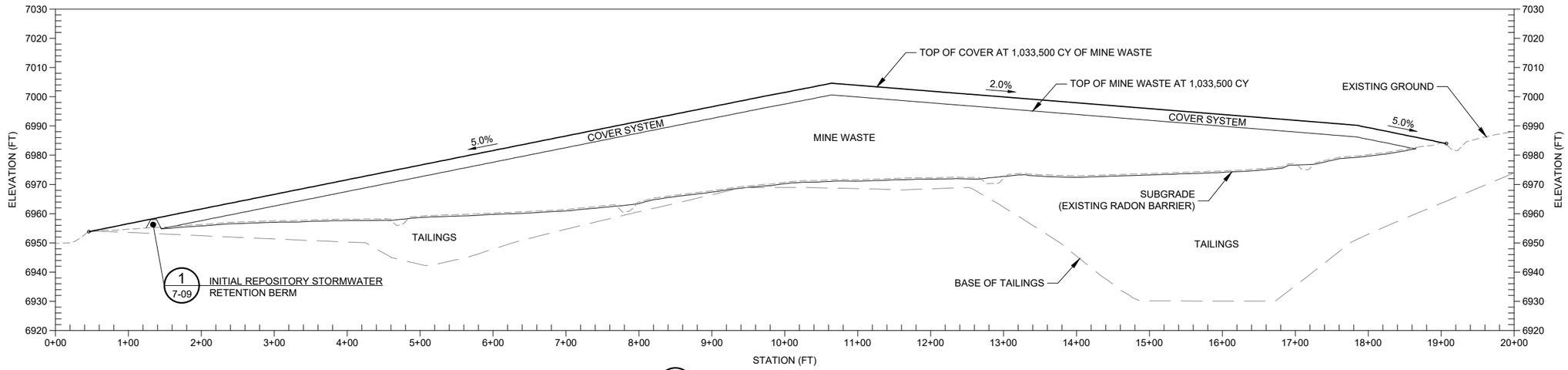
DESIGNED K REED
CHECKED M WITLER
APPROVED J CUMBERS

Stantec

UNITED NUCLEAR CORPORATION AND NORTHEAST CHURCH ROCK MINE
McKINLEY COUNTY, NEW MEXICO
NORTHEAST CHURCH ROCK PROJECT 95% DESIGN
REPOSITORY TOP OF MINE WASTE
AND COVER GRADING PLAN

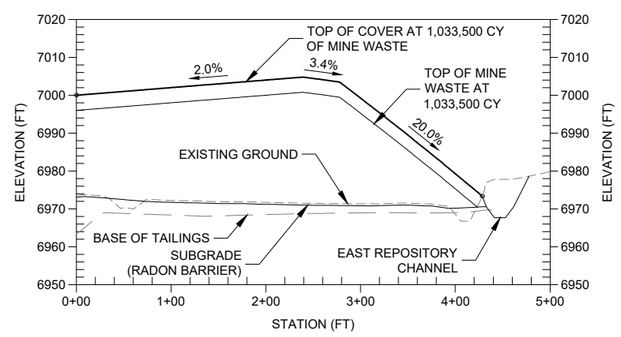
SHEET
7-05
233001048

pw:\\omerpaint03.mwhglobal.com:AM_PROJECTS02\Documents_General Electric\GE NECR Design\Civil\Sheet Sets\NECR-95%_V2_REVISED_DESIGN_DRAWINGS\07-95.2_WASTE_REPOSITORY_DESIGN\NECR 7-05 REP WASTE GRD PLAN 1M.dwg LAYOUT:Plan PLOT DATE:9/12/2018 2:20 PM BY:CAFOWLER



A 7-06 REPOSITORY PROFILE
AT 1,033,500 CY OF MINE WASTE

HORZ 0 80 160
VERT 0 20 40
SCALE IN FEET



B 7-06 REPOSITORY PROFILE
AT 1,033,500 CY OF MINE WASTE

HORZ 0 80 160
VERT 0 20 40
SCALE IN FEET

REV	DATE	BY	DESCRIPTION
C	04/09/18	KR	ISSUED FOR REVISED 95% DESIGN
B	10/30/17	KR	ISSUED FOR 95% DESIGN
A	07/15/16	KR	ISSUED FOR 30% DESIGN

DESIGNED K REED
CHECKED M WITLER
APPROVED J CUMBERS

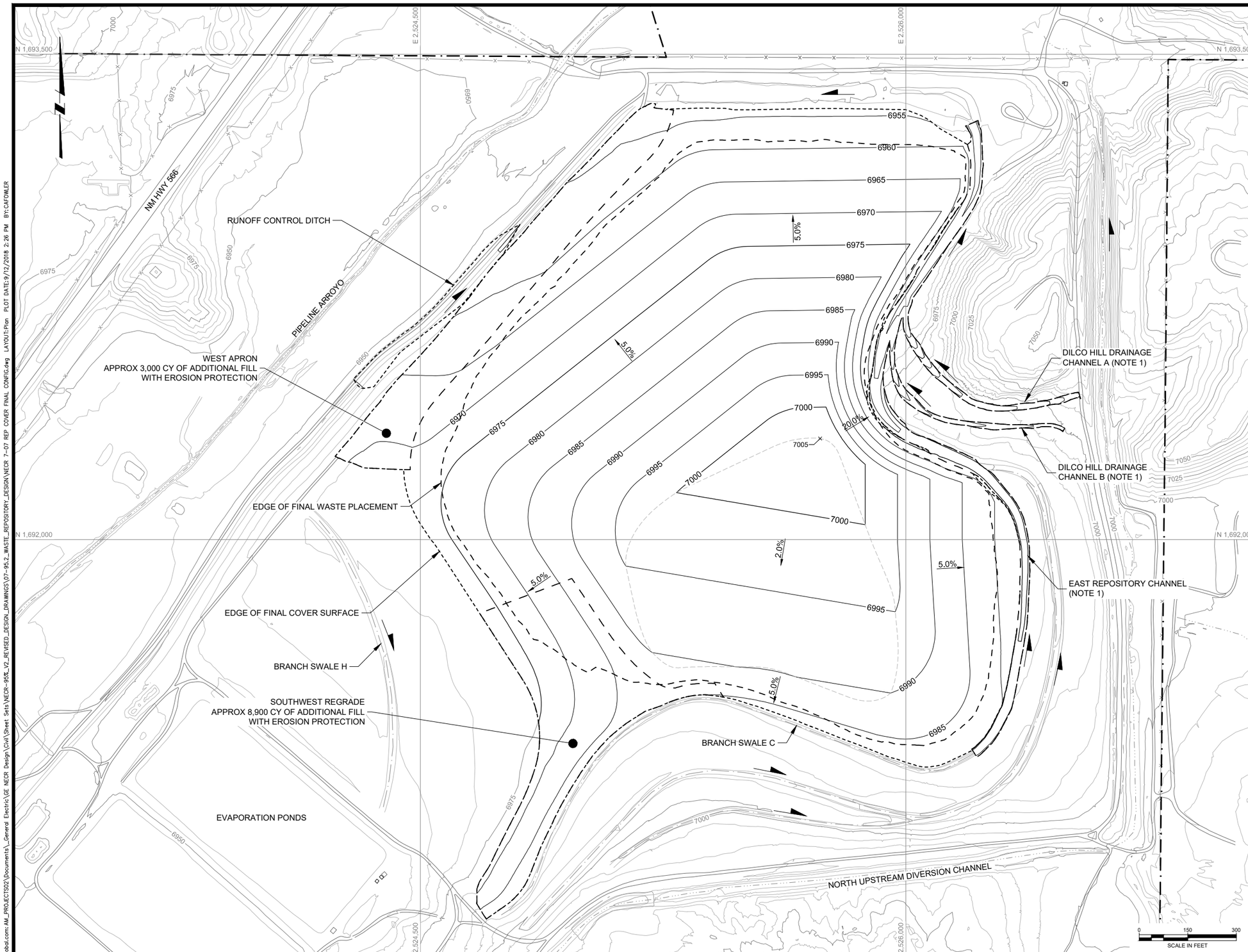
Stantec

UNITED NUCLEAR CORPORATION AND NORTHEAST CHURCH ROCK MINE
McKINLEY COUNTY, NEW MEXICO

NORTHEAST CHURCH ROCK PROJECT 95% DESIGN
REPOSITORY PROFILES

SHEET
7-06
233001048

pw:\\pmerpwint03.mwhglobal.com:AM_PROJECTS02\Documents_General Electric\GE NECR Design\Civil\Sheet Sets\NECR-95%_V2_REVISED_DESIGN_DRAWINGS\07-95.2_WASTE_REPOSITORY_DESIGN\NECR 7-06 REP PROFILES.dwg LAYOUT:Profile PLOT DATE:9/13/2018 1:25 PM BY:CAFOWLER



LEGEND:

- EXISTING GROUND SURFACE CONTOUR & ELEVATION, FEET
- PROPOSED SURFACE CONTOUR & ELEVATION, FEET
- UNC PROPERTY BOUNDARY
- ROADS
- NATURAL DRAINAGE
- EXISTING FENCE
- EXISTING SWALES
- STRUCTURES
- FLOW DIRECTION

NOTE(S):

1. PERMANENT STORMWATER CONTROL STRUCTURES DETAILED IN SECTION 9 DRAWINGS.

REV	DATE	BY	DESCRIPTION
D	09/24/18	KR	ISSUED FOR LAR
C	04/09/18	KR	ISSUED FOR REVISED 95% DESIGN
B	10/30/17	KR	ISSUED FOR 95% DESIGN
A	07/15/16	KR	ISSUED FOR 30% DESIGN

DESIGNED K REED
CHECKED M WITLER
APPROVED J CUMBERS

Stantec

UNITED NUCLEAR CORPORATION AND NORTHEAST CHURCH ROCK MINE
McKINLEY COUNTY, NEW MEXICO

NORTHEAST CHURCH ROCK PROJECT 95% DESIGN
REPOSITORY FINAL COVER GRADING PLAN

SHEET
7-07
233001048

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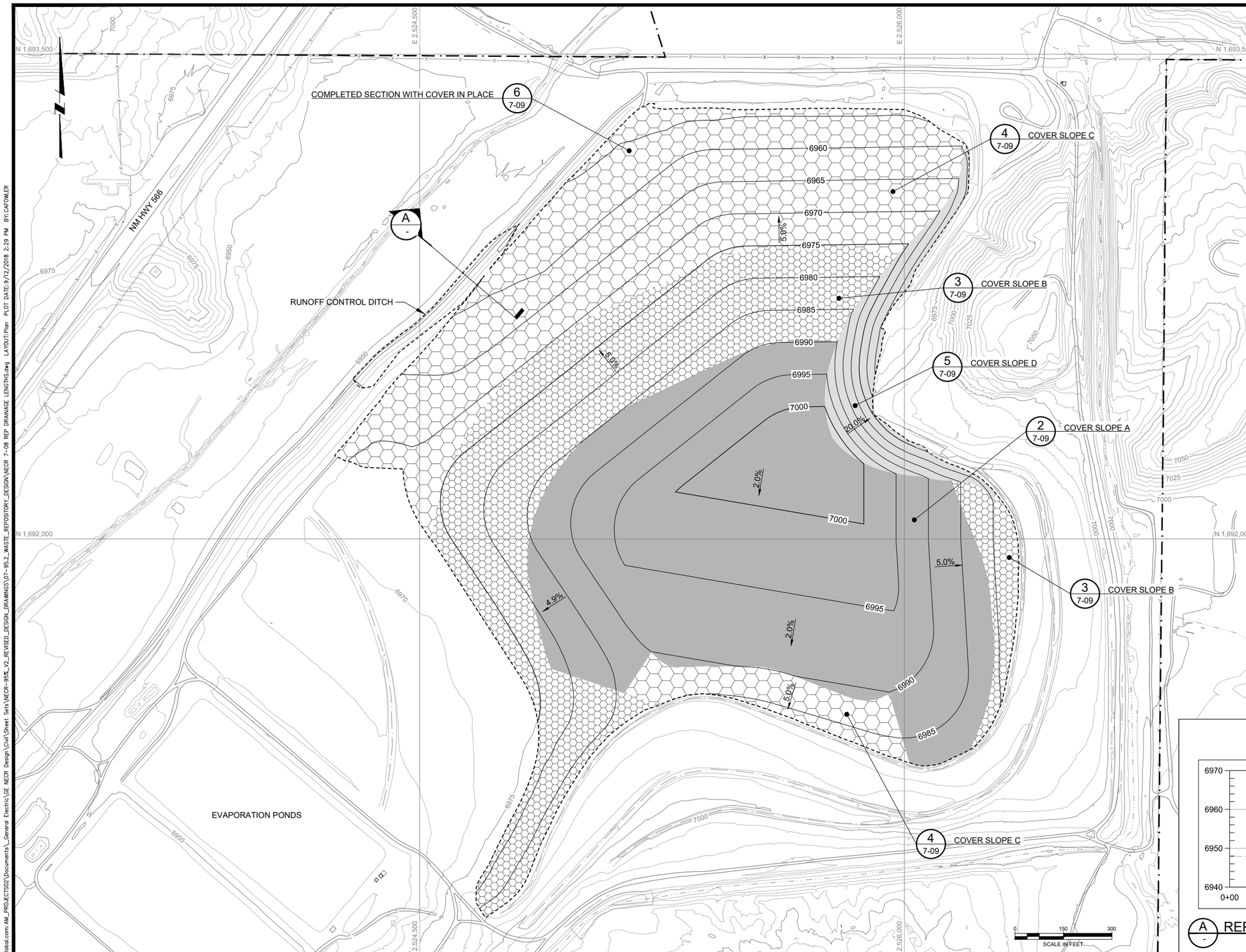
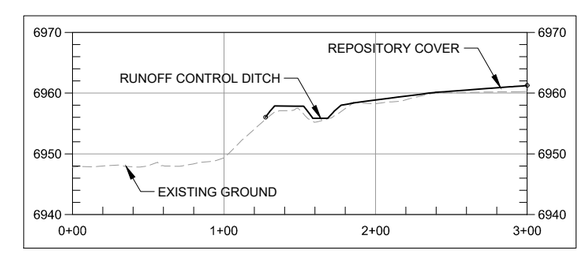


LEGEND:

- EXISTING GROUND SURFACE CONTOUR & ELEVATION, FEET
- PROPOSED POST STRIPPING SURFACE CONTOUR & ELEVATION, FEET
- UNC PROPERTY BOUNDARY
- ROADS
- NATURAL DRAINAGE
- EXISTING FENCE
- EXISTING SWALES
- STRUCTURES
- COVER SLOPE A (D_{50} = 1.5 INCHES)
- COVER SLOPE B (D_{50} = 2 INCHES)
- COVER SLOPE C (D_{50} = 3 INCHES)
- COVER SLOPE D (D_{50} = 1.5 INCHES)

NOTE(S):

1. COVER SLOPES A, B, AND C DESIGNED BY DWYER ENGINEERING, LLC.
2. COVER SLOPE D DESIGNED BY STANTEC.



A - REPOSITORY COVER TO CHANNEL TRANSITION

REV	DATE	BY	DESCRIPTION
D	09/24/18	KR	ISSUED FOR LAR
C	04/09/18	KR	ISSUED FOR REVISED 95% DESIGN
B	10/30/17	KR	ISSUED FOR 95% DESIGN
A	07/15/16	KR	ISSUED FOR 30% DESIGN

DESIGNED K REED
CHECKED M WITLER
APPROVED J CUMBERS

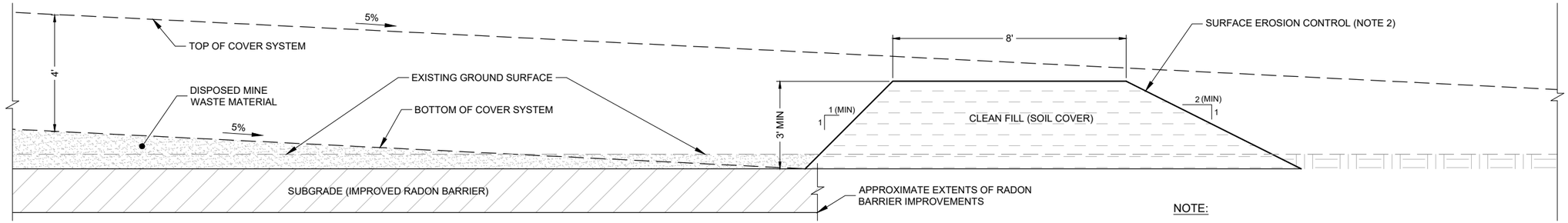
Stantec

UNITED NUCLEAR CORPORATION AND NORTHEAST CHURCH ROCK MINE
McKINLEY COUNTY, NEW MEXICO

NORTHEAST CHURCH ROCK PROJECT 95% DESIGN
COVER SURFACE EROSION PROTECTION

SHEET
7-08
233001048

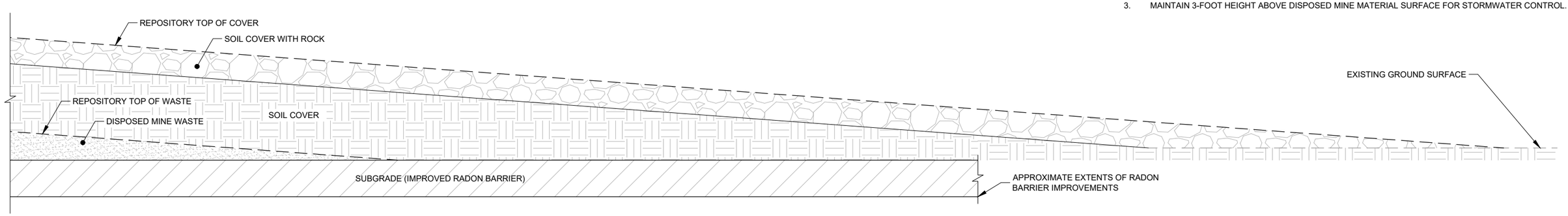
pw:\\amerypwint03.mwglobal.com:AM_PROJECTS02\Documents_General Electric\GE NECR Design\Civil\Sheet Sets\NECR-95%_V2_REVISED_DESIGN_DRAWINGS\07-95.2_WASTE_REPOSITORY_DESIGN\NECR 7-08 REP DRAINAGE LENGTHS.dwg LAYOUT:Plan PLOT DATE:9/12/2018 2:29 PM BY:CAFOWLER



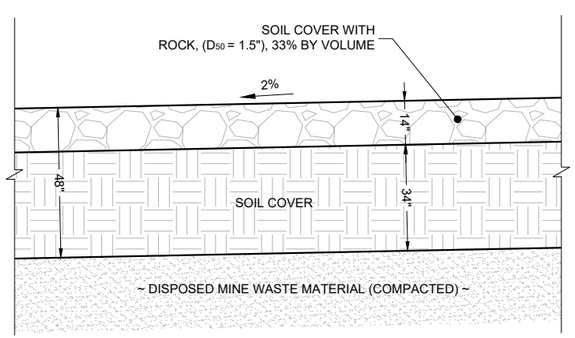
1 / 7-09 INITIAL REPOSITORY PERIMETER STORMWATER RETENTION BERM
(NOT TO SCALE)

NOTE:

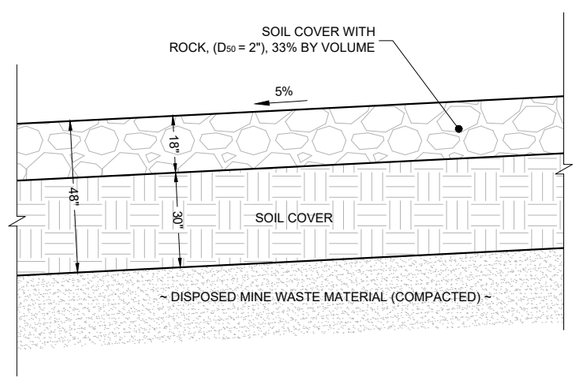
1. CLEAN FILL FOR BERMS TO BE GRADED INTO SOIL COVER LAYER.
2. SEE CONSTRUCTION STORMWATER POLLUTION PREVENTION PLAN
3. MAINTAIN 3-FOOT HEIGHT ABOVE DISPOSED MINE MATERIAL SURFACE FOR STORMWATER CONTROL.



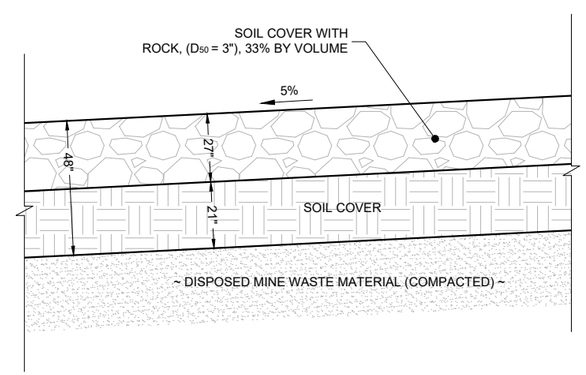
6 / 7-09 COMPLETED SECTION WITH COVER IN PLACE
(NOT TO SCALE)



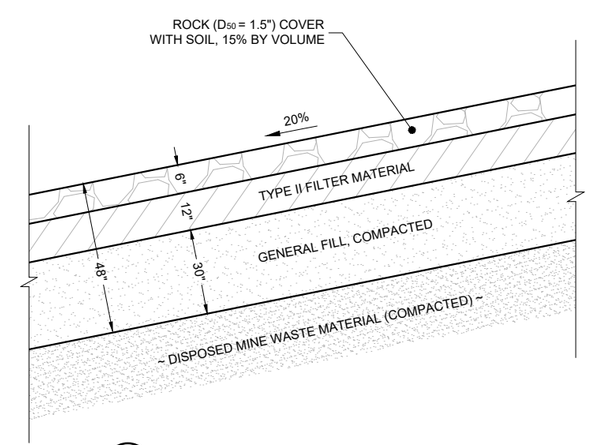
2 / 7-09 COVER SLOPE A (TOP SLOPES)
(NOT TO SCALE)



3 / 7-09 COVER SLOPE B (SIDE SLOPES)
(NOT TO SCALE)



4 / 7-09 COVER SLOPE C (LOWER SIDE SLOPES)
(NOT TO SCALE)



5 / 7-09 COVER SLOPE D (20% SLOPE)
(NOT TO SCALE)

NOTE:

1. COVER SLOPES A, B, AND C DESIGNED BY DWYER ENGINEERING, LLC.
COVER SLOPE D DESIGNED BY STANTEC.

REV	DATE	BY	DESCRIPTION
C	04/09/18	KR	ISSUED FOR REVISED 95% DESIGN
B	10/30/17	KR	ISSUED FOR 95% DESIGN
A	07/15/16	KR	ISSUED FOR 30% DESIGN

DESIGNED K REED
CHECKED M WITLER
APPROVED J CUMBERS

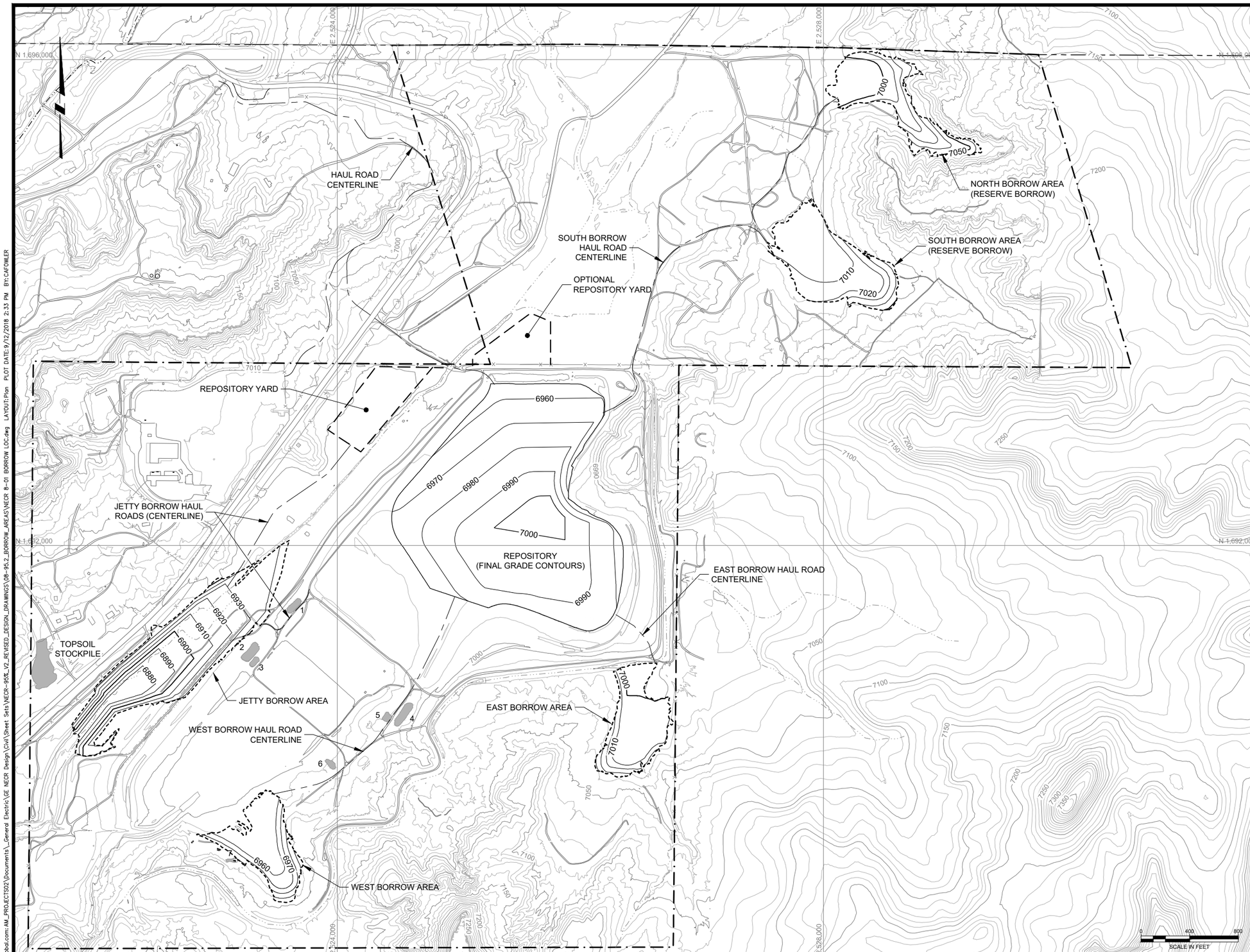
Stantec

UNITED NUCLEAR CORPORATION AND NORTHEAST CHURCH ROCK MINE
McKINLEY COUNTY, NEW MEXICO

NORTHEAST CHURCH ROCK PROJECT 95% DESIGN
REPOSITORY COVER DETAILS

SHEET
7-09
233001048

pw:\\amerpwint03.mwhglobal.com:AM_PROJECTS92\Documents_General Electric\GE NECR Design\Civil\Sheet Sets\NECR-95%_V2_REVISED_DESIGN_DRAWINGS\07-95.2_WASTE_REPOSITORY_DESIGN\NECR 7-09 DETAILS.dwg LAYOUT:Plan PLOT DATE:9/13/2018 2:46 PM BY:CAFOWLER



LEGEND:

- EXISTING GROUND SURFACE CONTOUR & ELEVATION, FEET
- BORROW EXCAVATION CONTOUR & ELEVATION, FEET
- CHURCH ROCK MILL SITE BOUNDARY
- BORROW AREA BOUNDARY
- HAUL ROAD CENTERLINE
- NATURAL DRAINAGE
- EXISTING ROAD
- EXISTING FENCE
- STRUCTURES
- MATERIAL STOCKPILE AND DESIGNATION

NOTE(S):

1. STOCKPILE 1 IS CRUSHER FINES, STOCKPILE 3 IS ROAD BASE, AND THE REMAINING STOCKPILES (2, 4-6) ARE CRUSHED BASALT RANGING IN SIZE FROM 1 TO 15 INCHES.
2. TOPSOIL STOCKPILE IS APPROXIMATELY 20,000 CY.

REV	DATE	BY	DESCRIPTION
D	09/24/18	KR	ISSUED FOR LAR
C	04/09/18	KR	ISSUED FOR REVISED 95% DESIGN
B	10/30/17	KR	ISSUED FOR 95% DESIGN
A	07/15/16	KR	ISSUED FOR 30% DESIGN

DESIGNED K REED
CHECKED M WITLER
APPROVED J CUMBERS

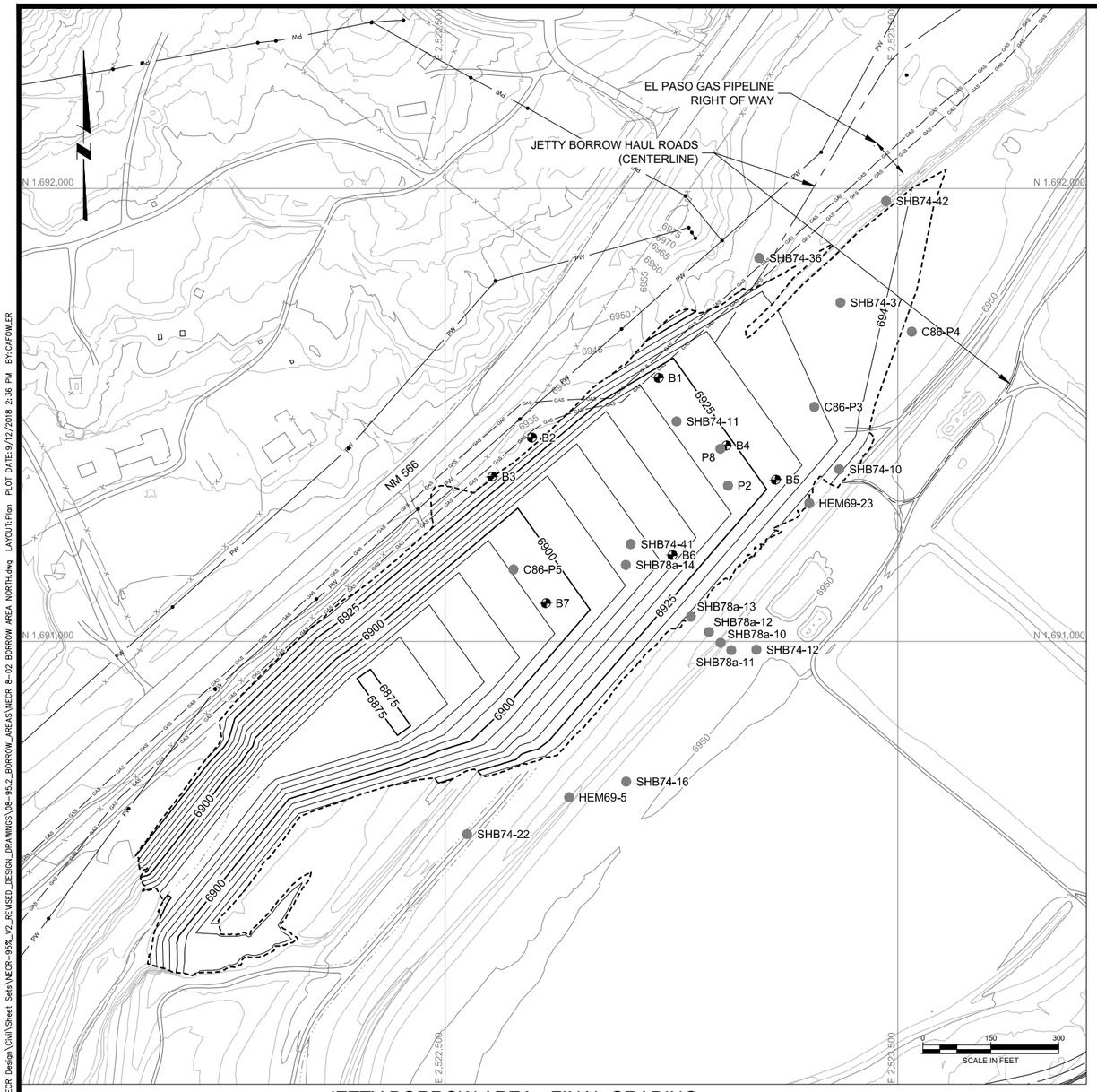
Stantec

UNITED NUCLEAR CORPORATION AND NORTHEAST CHURCH ROCK MINE
McKINLEY COUNTY, NEW MEXICO

NORTHEAST CHURCH ROCK PROJECT 95% DESIGN
BORROW AREAS LOCATION MAP

SHEET
8-01
233001048

pw:\\amervpwint03.mwhglobal.com:AM_PROJECTS02\Documents_General Electric\GE NECR Design\Civil\Sheet Sets\NECR-95%_V2_REVISED_DESIGN_DRAWINGS\08-95.2_BORROW_AREAS\NECR 8-01 BORROW LOC.dwg LAYOUT:Plan PLOT DATE:9/12/2018 2:33 PM BY:CAFOWLER



JETTY BORROW AREA - FINAL GRADING
AND GEOTECHNICAL INVESTIGATION BORHOLE LOCATIONS

JETTY BORROW AREA - CUT DEPTHS

LEGEND:

- 7200 — EXISTING GROUND SURFACE CONTOUR & ELEVATION, FEET
- 7200 — BORROW EXCAVATION CONTOUR & ELEVATION, FEET
- -10 — BORROW EXCAVATION DEPTHS & ELEVATION, FEET
- CHURCH ROCK MILL SITE BOUNDARY
- BORROW AREA BOUNDARY
- BORROW AREA HAUL ROAD CENTERLINE
- NATURAL DRAINAGE
- EXISTING ROAD
- EXISTING FENCE
- STRUCTURES
- PW — OVERHEAD POWER LINE
- SOIL BORING (MWH, 2013)
- SHB74-XX (SERGENT, HAUSKINS, AND BECKWITH, 1974)
  PX (CANONIE, 1986)
  HEM69 (HEMPHILL, 1969)

REV	DATE	BY	DESCRIPTION
D	09/24/18	KR	ISSUED FOR LAR
C	04/09/18	KR	ISSUED FOR REVISED 95% DESIGN
B	10/30/17	KR	ISSUED FOR 95% DESIGN

DESIGNED J ERICKSON
CHECKED M WITLER
APPROVED J CUMBERS

Stantec

UNITED NUCLEAR CORPORATION AND NORTHEAST CHURCH ROCK MINE
McKINLEY COUNTY, NEW MEXICO

NORTHEAST CHURCH ROCK PROJECT 95% DESIGN
JETTY BORROW AREA

SHEET
8-02
233001048

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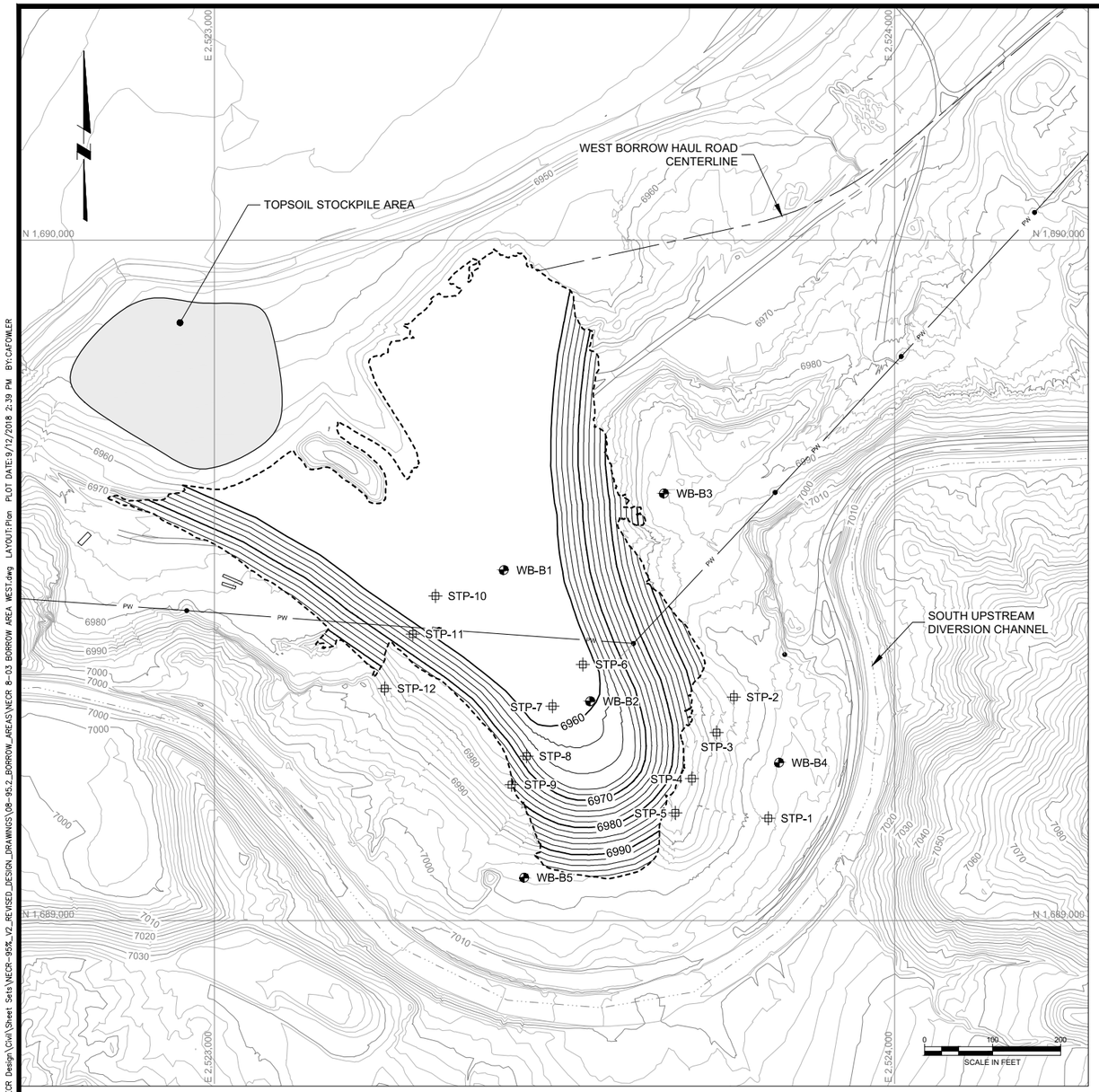
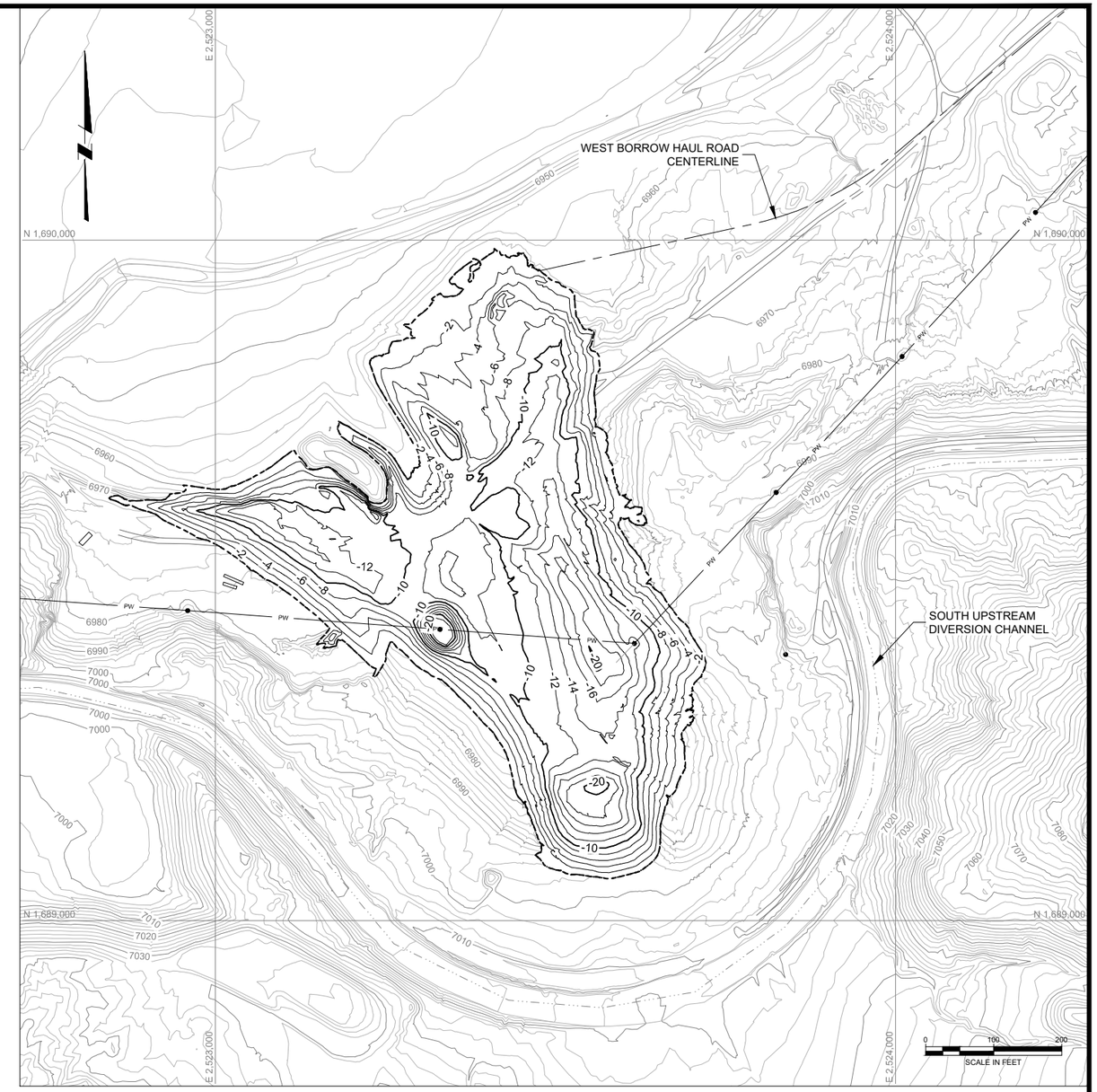


WEST BORROW AREA - FINAL GRADING (EXCAVATED)



WEST BORROW AREA - CUT DEPTHS

LEGEND:

- 7200 — EXISTING GROUND SURFACE CONTOUR & ELEVATION, FEET
- 7200 — BORROW EXCAVATION CONTOUR & ELEVATION, FEET
- -10 — BORROW EXCAVATION DEPTHS & ELEVATION, FEET
- PW — OVERHEAD POWER LINE
- BORROW AREA BOUNDARY
- BORROW AREA HAUL ROAD CENTERLINE
- NATURAL DRAINAGE
- EXISTING ROAD
- STRUCTURES
- SOIL BORING (MWH, 2013)
- TEST PIT (MWH, 2012)

REV	DATE	BY	DESCRIPTION
D	09/24/18	KR	ISSUED FOR LAR
C	04/09/18	KR	ISSUED FOR REVISED 95% DESIGN
B	10/30/17	KR	ISSUED FOR 95% DESIGN
A	07/15/16	KR	ISSUED FOR 30% DESIGN

DESIGNED K REED
CHECKED M WITLER
APPROVED J CUMBERS

Stantec

UNITED NUCLEAR CORPORATION AND NORTHEAST CHURCH ROCK MINE
McKINLEY COUNTY, NEW MEXICO

NORTHEAST CHURCH ROCK PROJECT 95% DESIGN
WEST BORROW AREA

SHEET 8-03

233001048

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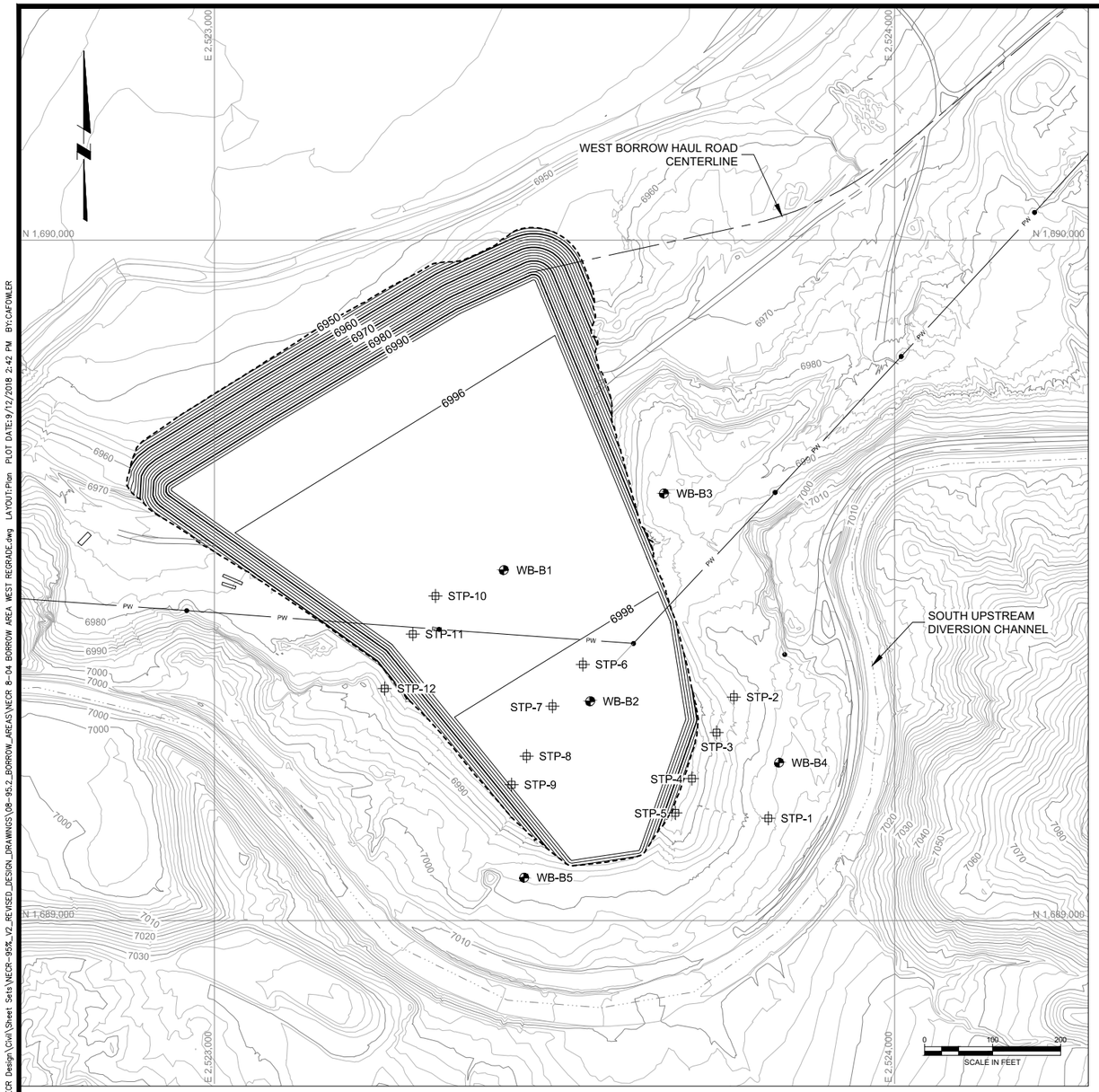
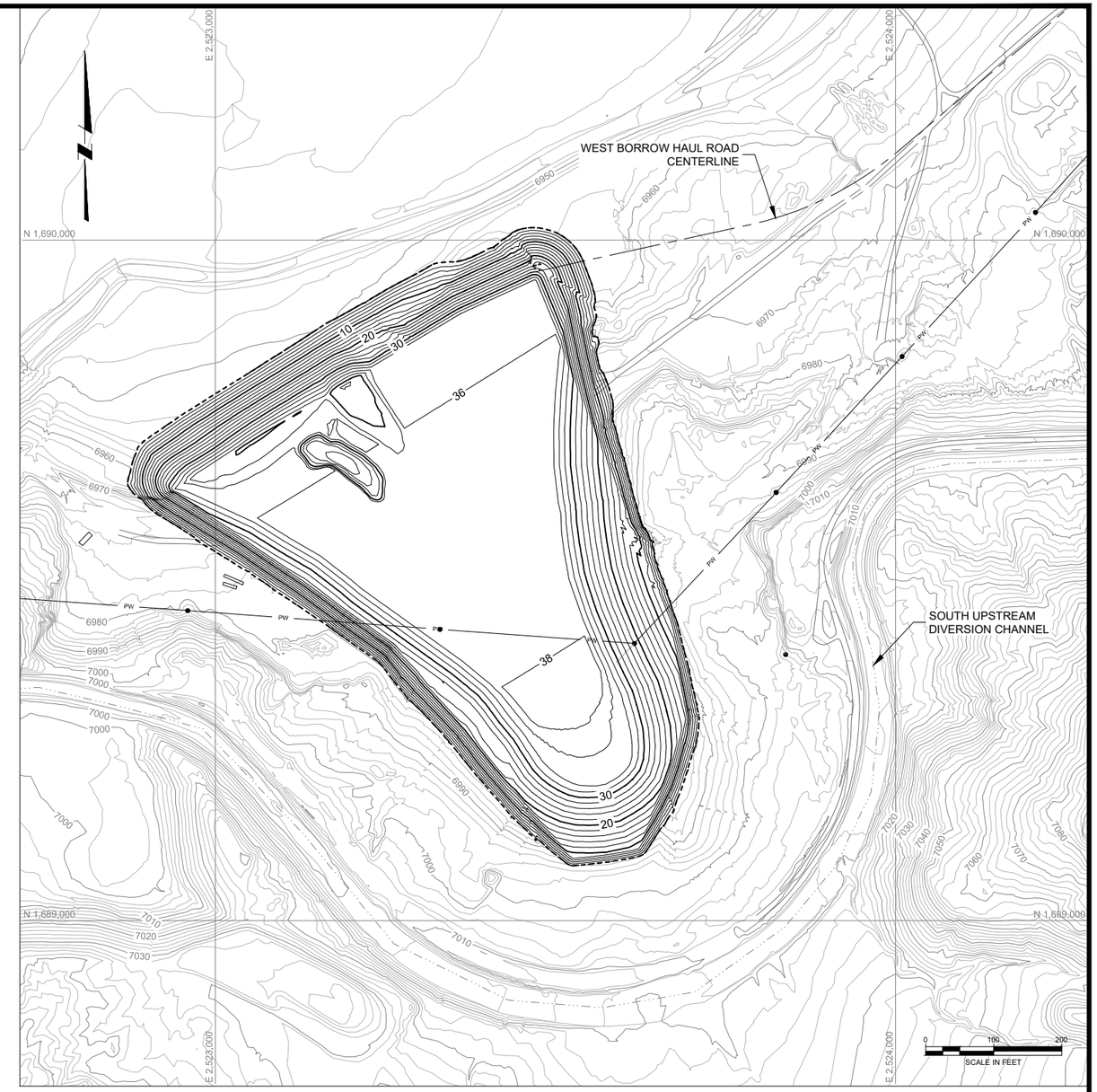


WEST BORROW AREA - FINAL GRADING (BACKFILLED)



WEST BORROW AREA - FILL DEPTHS

LEGEND:

- 7200 — EXISTING GROUND SURFACE CONTOUR & ELEVATION, FEET
- 7200 — BORROW EXCAVATION CONTOUR & ELEVATION, FEET
- 10 — BORROW EXCAVATION DEPTHS & ELEVATION, FEET
- PW — OVERHEAD POWER LINES
- BORROW AREA BOUNDARY
- BORROW AREA HAUL ROAD CENTERLINE
- NATURAL DRAINAGE
- EXISTING ROAD
- STRUCTURES
- SOIL BORING (MWH, 2013)
- TEST PIT (MWH, 2012)

NOTE(S):

1. ALLOWABLE FILL PLACEMENT FOLLOWING BORROW REMOVAL FOR COVER SOIL.
2. FINAL GRADING PLAN ASSUMES 443,000 CY OF FILL.

REV	DATE	BY	DESCRIPTION
D	09/24/18	KR	ISSUED FOR LAR
C	04/09/18	KR	ISSUED FOR REVISED 95% DESIGN

DESIGNED K REED
CHECKED M WITLER
APPROVED J CUMBERS

Stantec

UNITED NUCLEAR CORPORATION AND NORTHEAST CHURCH ROCK MINE
McKINLEY COUNTY, NEW MEXICO

NORTHEAST CHURCH ROCK PROJECT 95% DESIGN
WEST BORROW AREA BACKFILLED

SHEET
8-04
233001048

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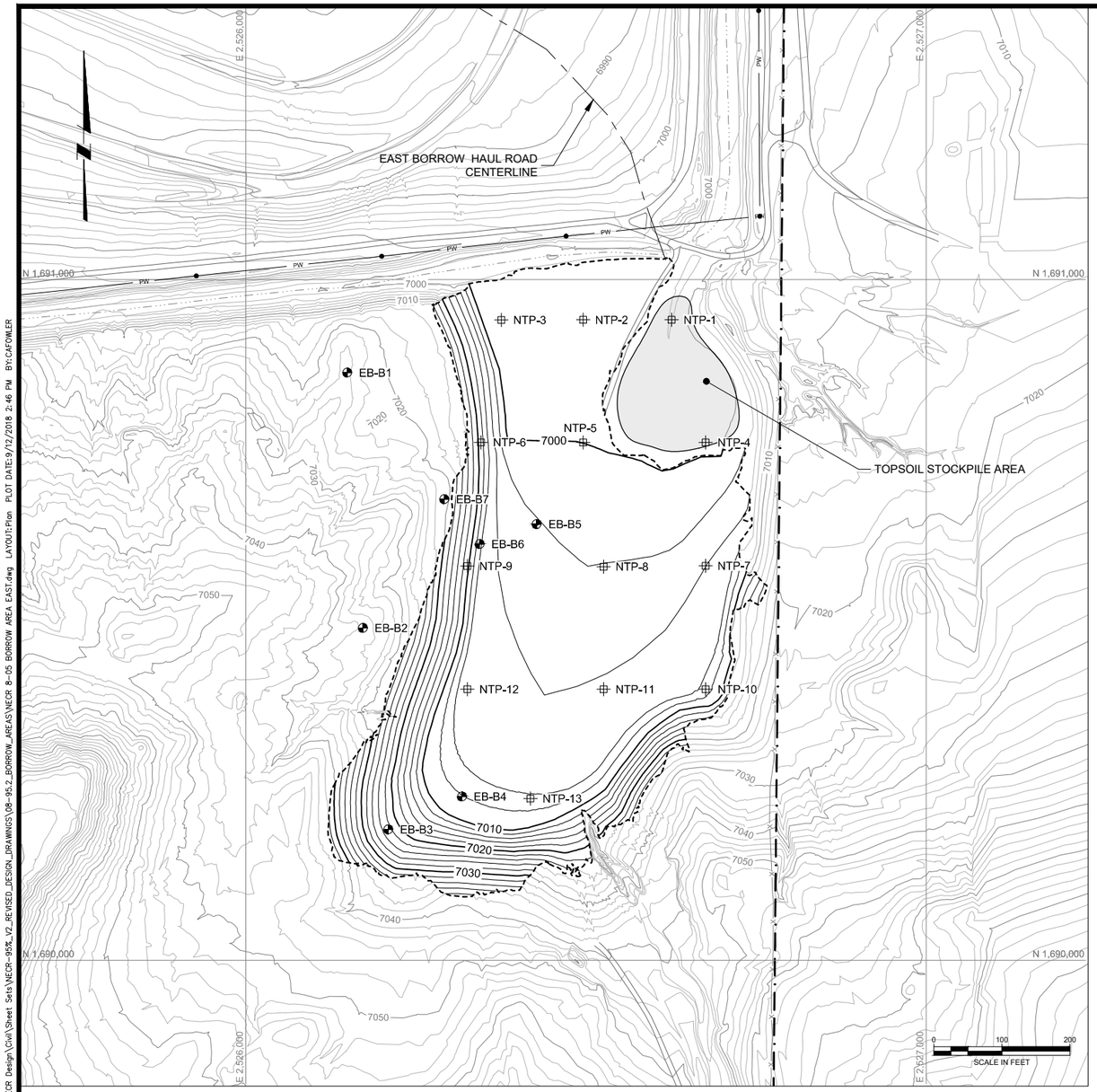
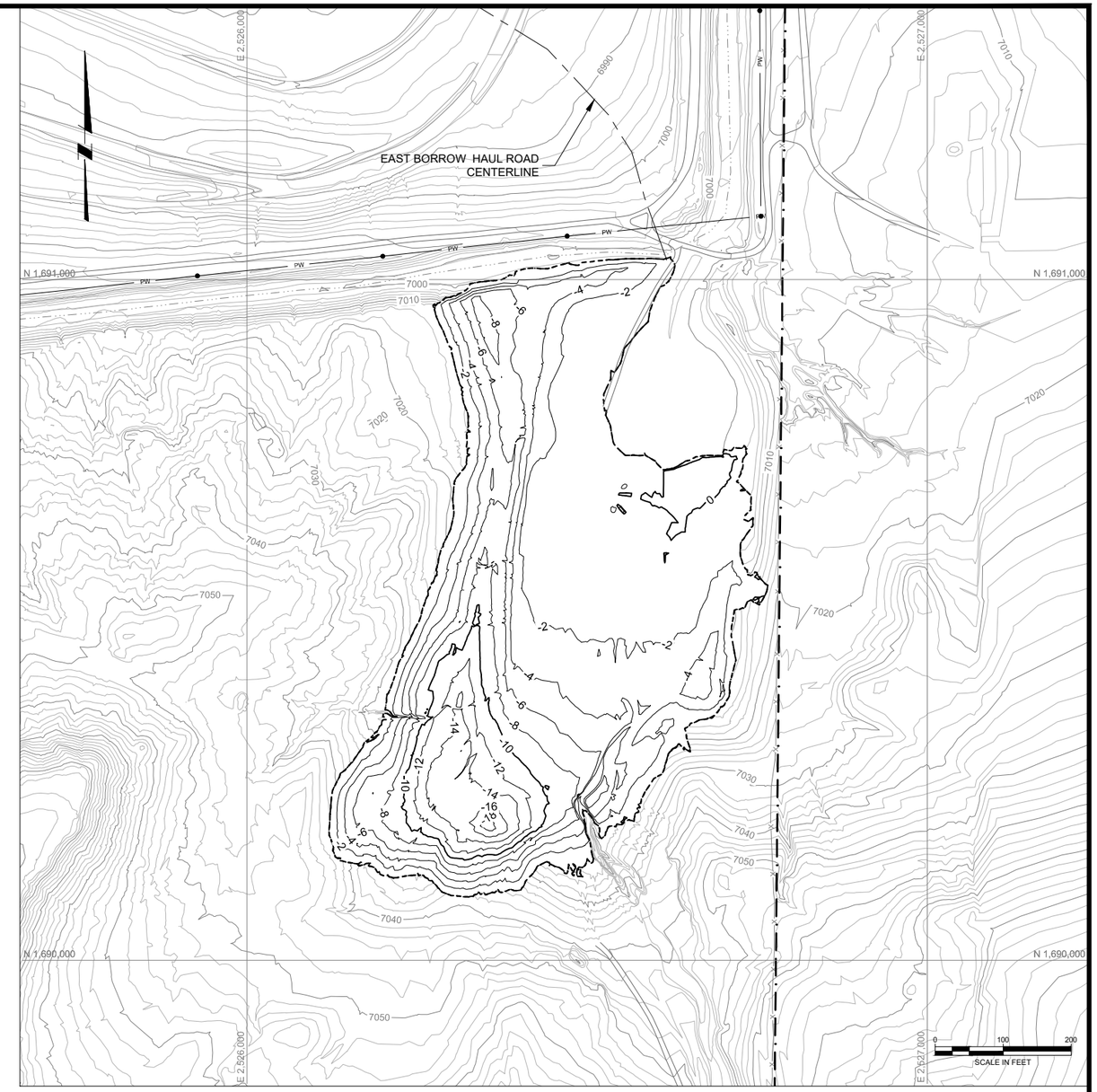


EAST BORROW AREA - FINAL GRADING



EAST BORROW AREA - CUT DEPTHS

LEGEND:

- 7200 — EXISTING GROUND SURFACE CONTOUR & ELEVATION, FEET
- 7200 — BORROW EXCAVATION CONTOUR & ELEVATION, FEET
- -10 — BORROW EXCAVATION DEPTHS & ELEVATION, FEET
- CHURCH ROCK MILL SITE BOUNDARY
- BORROW AREA BOUNDARY
- BORROW AREA HAUL ROAD CENTERLINE
- NATURAL DRAINAGE
- EXISTING ROAD
- EXISTING FENCE
- PW — OVERHEAD POWER LINES
- SOIL BORING (MWH, 2013)
- TEST PIT (MWH, 2012)

REV	DATE	BY	DESCRIPTION
D	09/24/18	KR	ISSUED FOR LAR
C	04/09/18	KR	ISSUED FOR REVISED 95% DESIGN
B	10/30/17	KR	ISSUED FOR 95% DESIGN
A	07/15/16	KR	ISSUED FOR 30% DESIGN

DESIGNED K REED
CHECKED M WITLER
APPROVED J CUMBERS

Stantec

UNITED NUCLEAR CORPORATION AND NORTHEAST CHURCH ROCK MINE
McKINLEY COUNTY, NEW MEXICO

NORTHEAST CHURCH ROCK PROJECT 95% DESIGN
EAST BORROW AREA

SHEET 8-05

233001048

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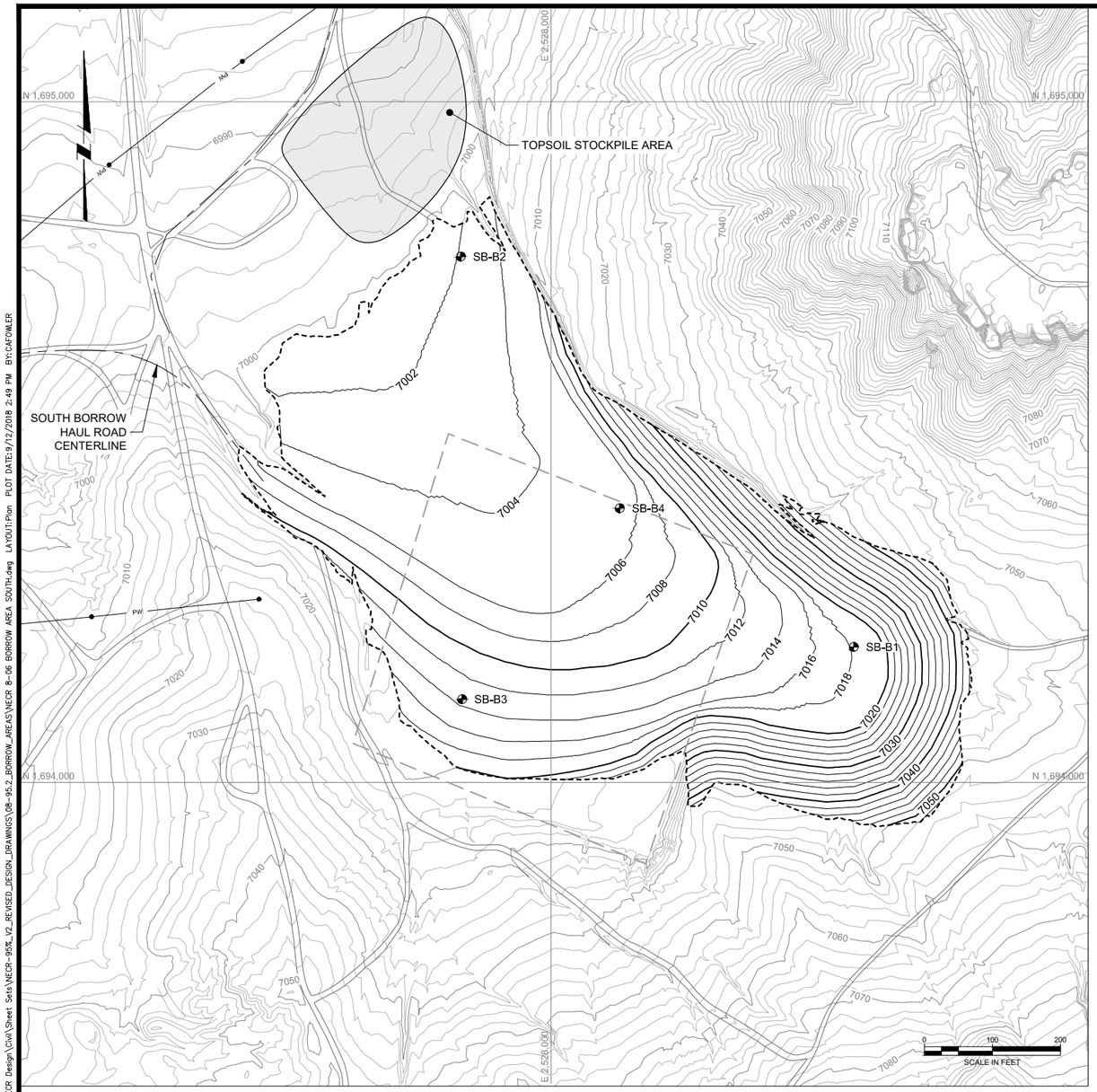
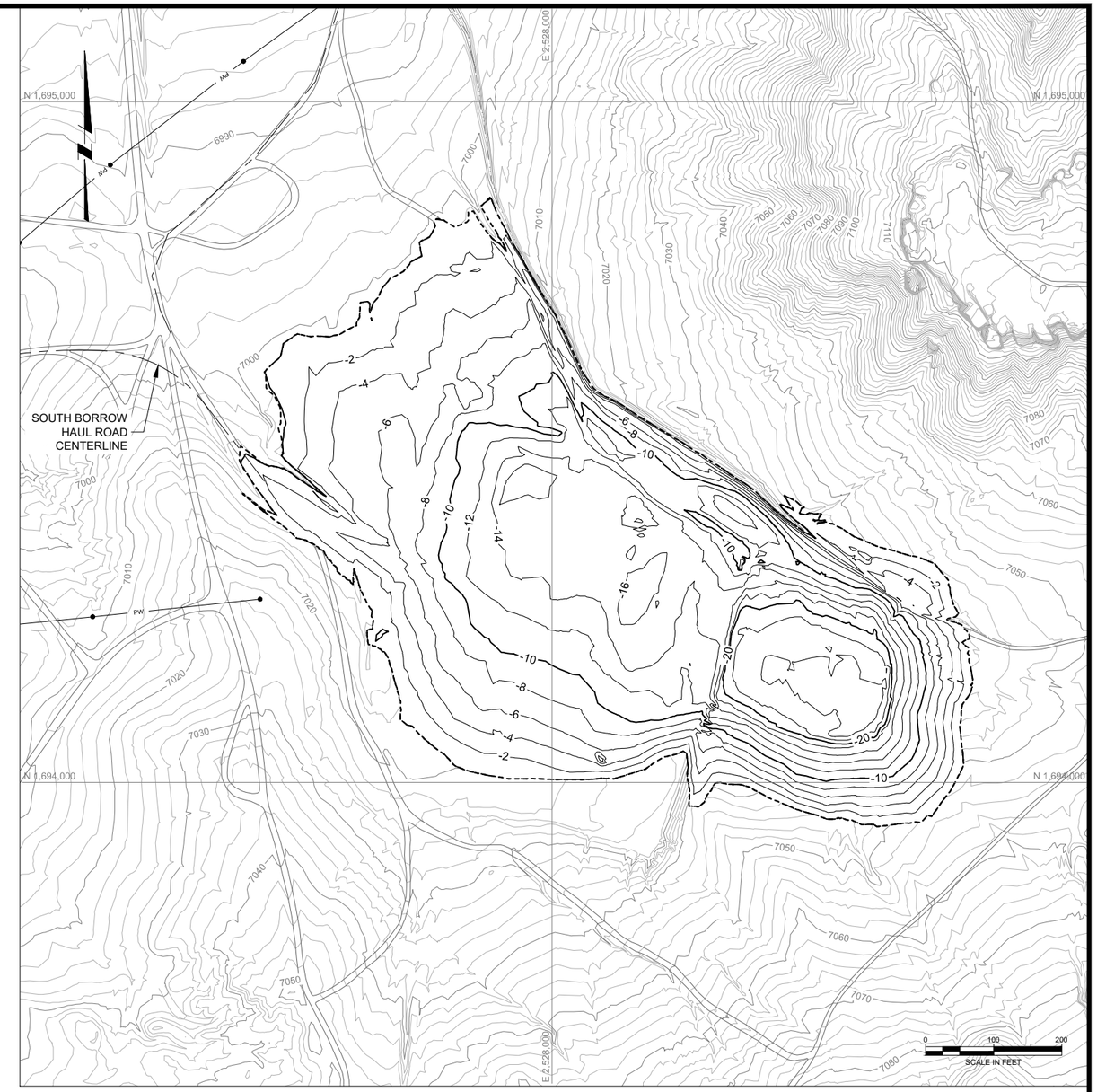


SOUTH BORROW AREA - FINAL GRADING



SOUTH BORROW AREA - CUT DEPTHS

LEGEND:

- 7200 — EXISTING GROUND SURFACE CONTOUR & ELEVATION, FEET
- 7200 — BORROW EXCAVATION CONTOUR & ELEVATION, FEET
- -10 — BORROW EXCAVATION DEPTHS & ELEVATION, FEET
- PW — OVERHEAD POWER LINES
- BORROW AREA BOUNDARY
- BORROW AREA HAUL ROAD CENTERLINE
- NATURAL DRAINAGE
- EXISTING ROAD
- POTENTIAL BURIED DEBRIS AREA
- SOIL BORING (MWH, 2013)

REV	DATE	BY	DESCRIPTION
D	09/24/18	KR	ISSUED FOR LAR
C	04/09/18	KR	ISSUED FOR REVISED 95% DESIGN
B	10/30/17	KR	ISSUED FOR 95% DESIGN
A	07/15/16	KR	ISSUED FOR 30% DESIGN

DESIGNED K.REED
CHECKED M.WITLER
APPROVED J.CUMBERS

Stantec

UNITED NUCLEAR CORPORATION AND NORTHEAST CHURCH ROCK MINE
McKINLEY COUNTY, NEW MEXICO

NORTHEAST CHURCH ROCK PROJECT 95% DESIGN
SOUTH BORROW AREA

SHEET
8-06
233001048

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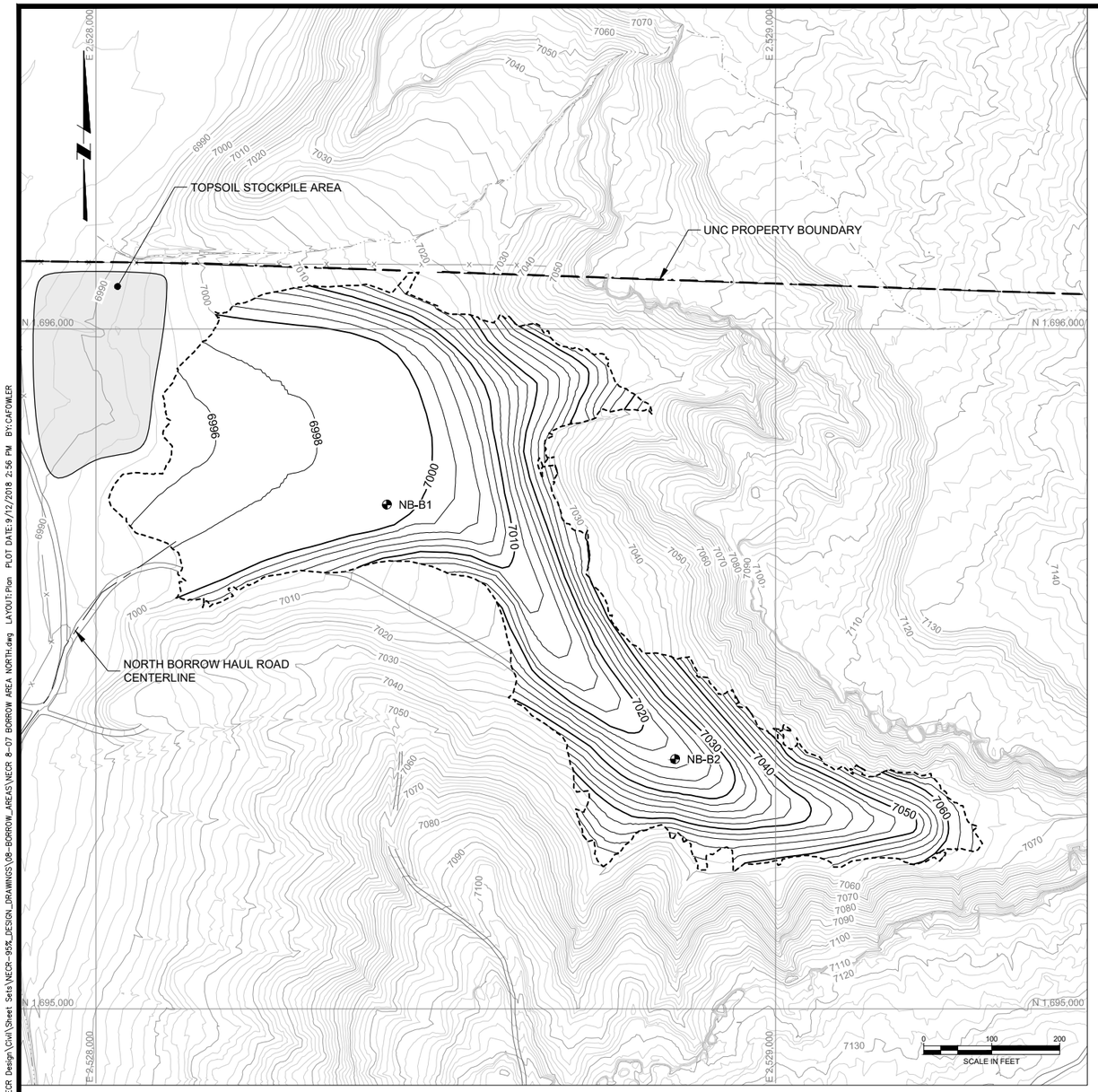
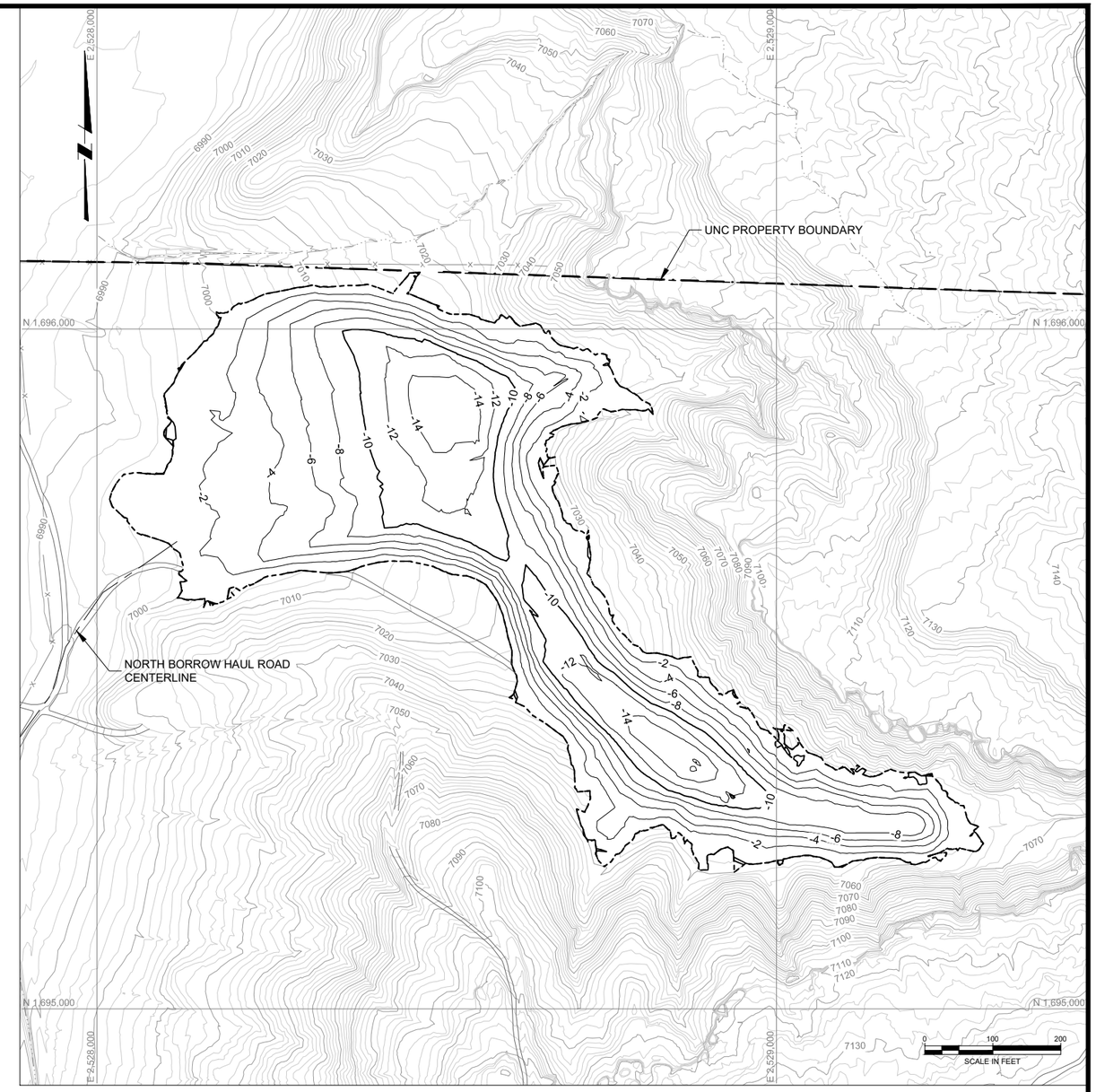


NORTH BORROW AREA - FINAL GRADING



NORTH BORROW AREA - CUT DEPTHS

LEGEND:

- 7200 — EXISTING GROUND SURFACE CONTOUR & ELEVATION, FEET
- 7200 — BORROW EXCAVATION CONTOUR & ELEVATION, FEET
- -10 — BORROW EXCAVATION DEPTHS & ELEVATION, FEET
- PW — OVERHEAD POWER LINES
- BORROW AREA BOUNDARY
- BORROW AREA HAUL ROAD CENTERLINE
- NATURAL DRAINAGE
- EXISTING ROAD
- POTENTIAL BURIED DEBRIS AREA
- SOIL BORING (MWH, 2013)

REV	DATE	BY	DESCRIPTION
D	09/24/18	KR	ISSUED FOR LAR
C	04/09/18	KR	ISSUED FOR REVISED 95% DESIGN
B	10/30/17	KR	ISSUED FOR 95% DESIGN
A	07/15/16	KR	ISSUED FOR 30% DESIGN

DESIGNED K REED
CHECKED M WITLER
APPROVED J CUMBERS

Stantec

UNITED NUCLEAR CORPORATION AND NORTHEAST CHURCH ROCK MINE
McKINLEY COUNTY, NEW MEXICO

NORTHEAST CHURCH ROCK PROJECT 95% DESIGN
NORTH BORROW AREA

SHEET 8-07

233001048

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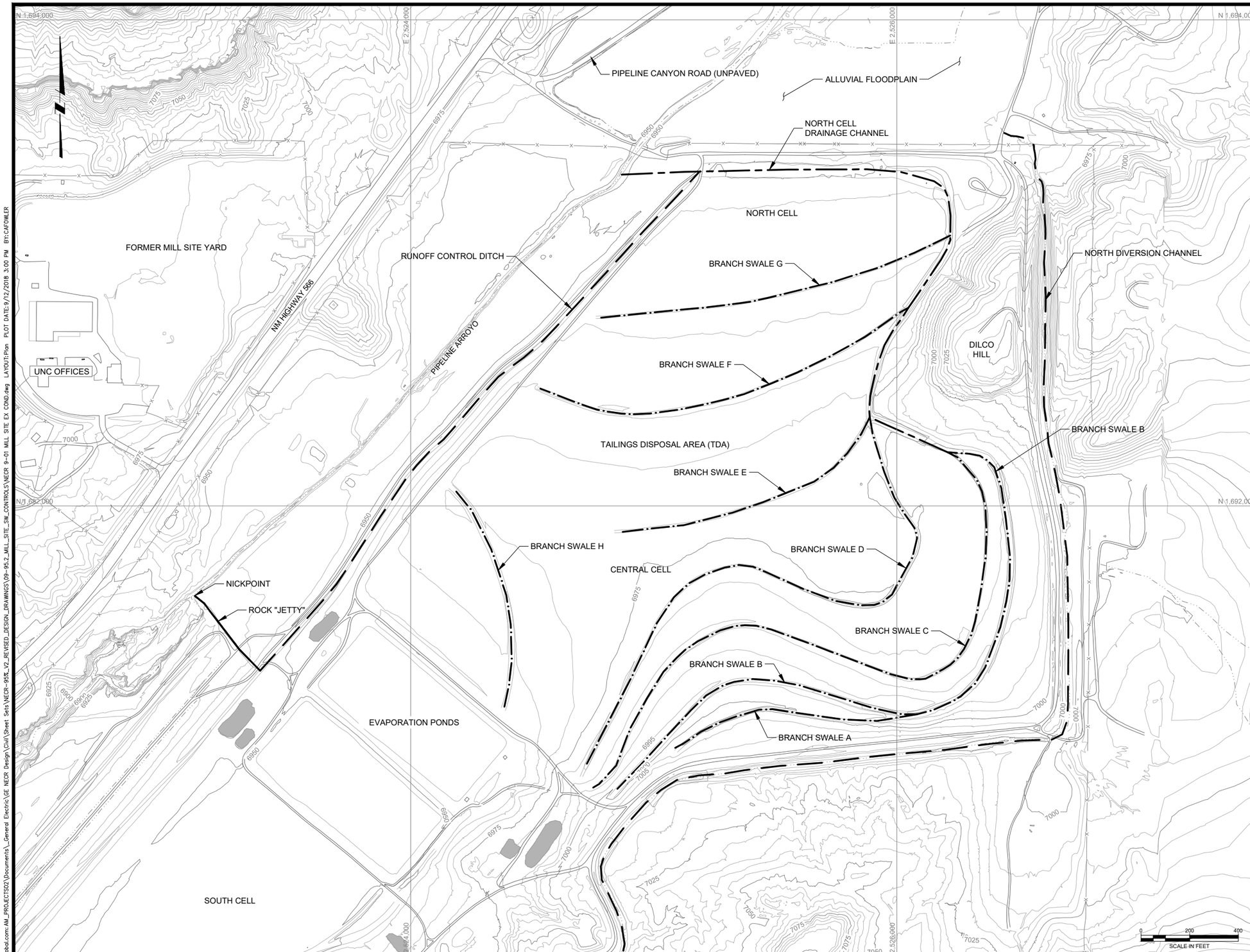


LEGEND:

- 7200 — EXISTING GROUND SURFACE ELEVATIONS & CONTOUR, FEET
- DRAINAGE CHANNEL
- BRANCH SWALE
- DIVERSION CHANNEL
- EXISTING ROADS
- NATURAL DRAINAGE
- EXISTING FENCE
- STRUCTURES
- MATERIAL STOCKPILES

REV	DATE	BY	DESCRIPTION
D	09/24/18	KR	ISSUED FOR LAR
C	04/09/18	KR	ISSUED FOR REVISED 95% DESIGN
B	10/30/17	KR	ISSUED FOR 95% DESIGN
A	07/15/16	CF	ISSUED FOR 30% DESIGN

DESIGNED J ERICKSON
CHECKED N HAWS
APPROVED J CUMBERS

Stantec

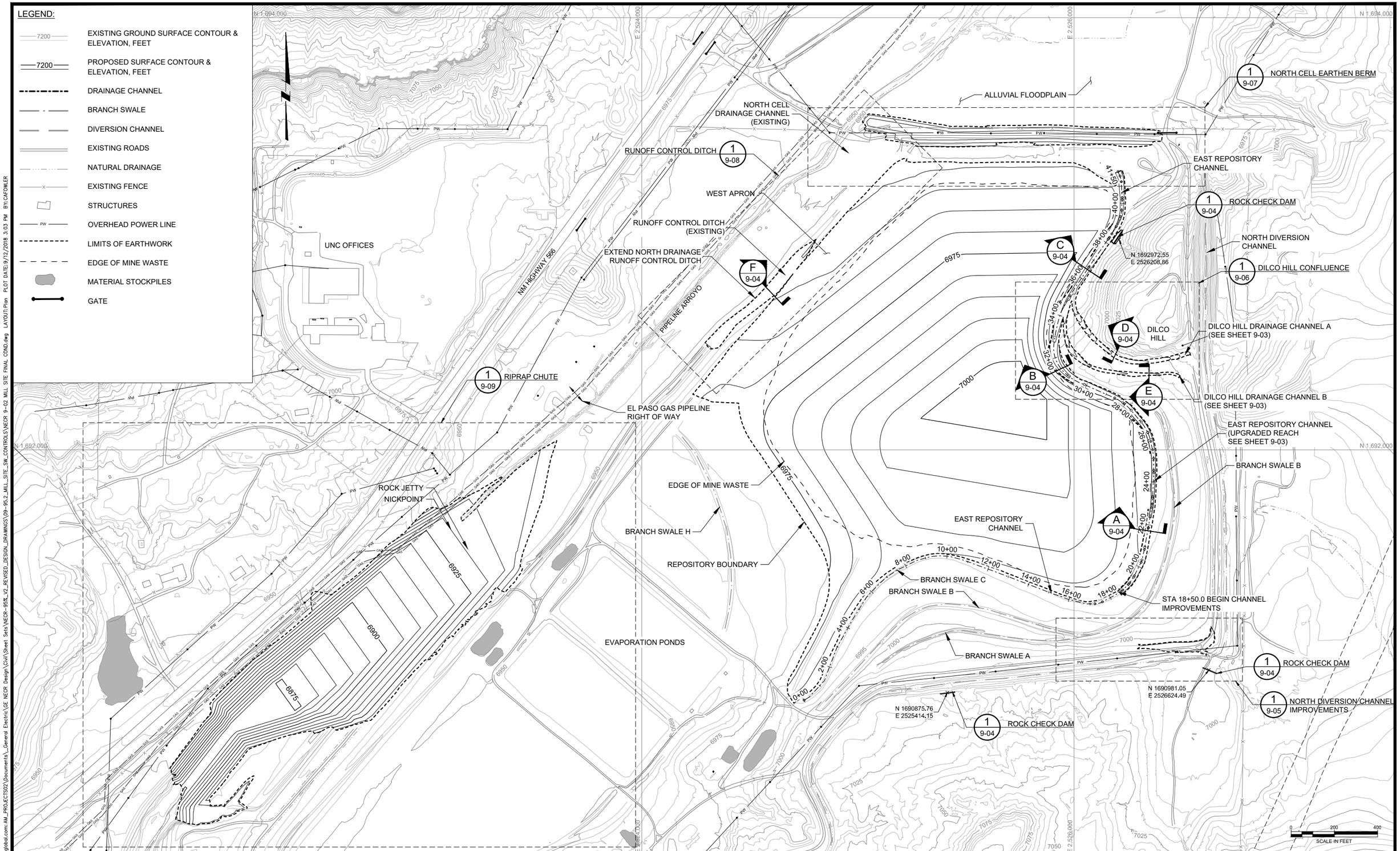
UNITED NUCLEAR CORPORATION AND NORTHEAST CHURCH ROCK MINE
McKINLEY COUNTY, NEW MEXICO
NORTHEAST CHURCH ROCK PROJECT 95% DESIGN
MILL SITE REPOSITORY AREA STORMWATER CONTROLS
EXISTING CONDITION

SHEET
9-01
233001048

pw:\\amerygwin103.mwhglobal.com:AM_PROJECTS02\Documents_General Electric\GE NECR Design\Civil\Sheet Sets\NECR-95%_V2_REVISED_DESIGN_DRAWINGS\09-95.2_MILL_SITE_SW_CONTROLS\NECR 9-01 MILL SITE EX COND.dwg LAYOUT:Plan PLOT DATE:9/12/2018 3:00 PM BY:CAFOWLER

LEGEND:

- EXISTING GROUND SURFACE CONTOUR & ELEVATION, FEET
- PROPOSED SURFACE CONTOUR & ELEVATION, FEET
- DRAINAGE CHANNEL
- BRANCH SWALE
- DIVERSION CHANNEL
- EXISTING ROADS
- NATURAL DRAINAGE
- EXISTING FENCE
- STRUCTURES
- OVERHEAD POWER LINE
- LIMITS OF EARTHWORK
- EDGE OF MINE WASTE
- MATERIAL STOCKPILES
- GATE



REV	DATE	BY	DESCRIPTION
D	09/24/18	KR	ISSUED FOR LAR
C	04/09/18	RW	ISSUED FOR REVISED 95% DESIGN
B	10/30/17	KR	ISSUED FOR 95% DESIGN
A	07/15/16	CF	ISSUED FOR 30% DESIGN

DESIGNED J ERICKSON
CHECKED N HAWS
APPROVED C CUMBERS

Stantec

UNITED NUCLEAR CORPORATION AND NORTHEAST CHURCH ROCK MINE
McKINLEY COUNTY, NEW MEXICO
NORTHEAST CHURCH ROCK PROJECT 95% DESIGN
MILL SITE REPOSITORY AREA STORMWATER CONTROLS
FINAL CONDITION

SHEET 9-02

233001048

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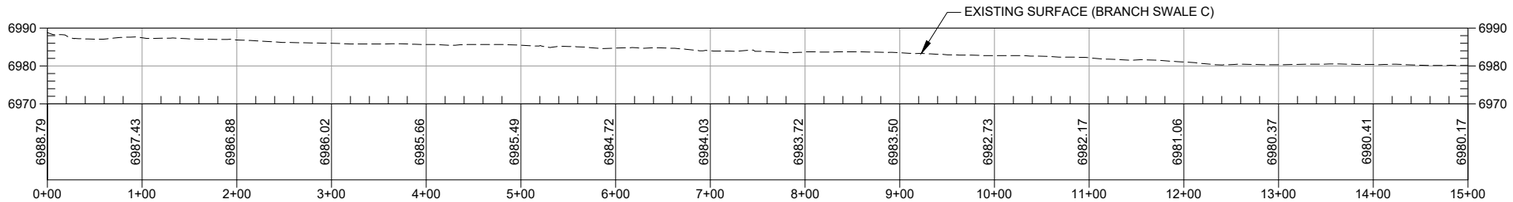
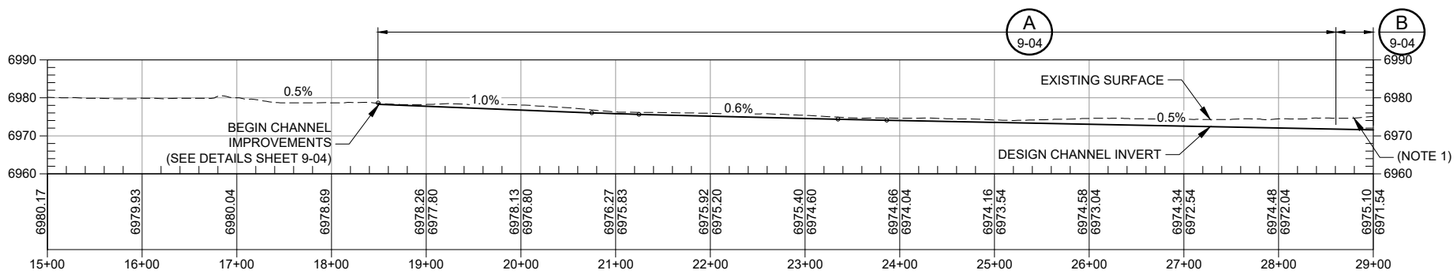
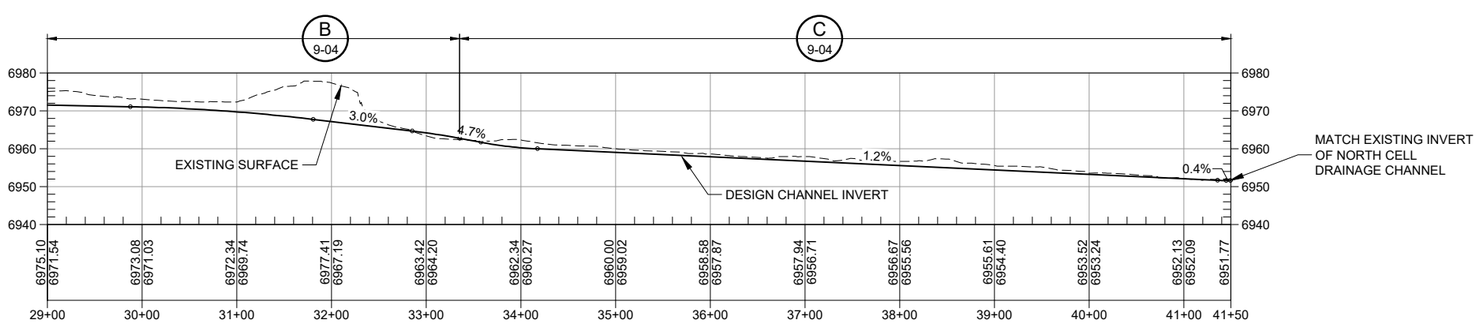
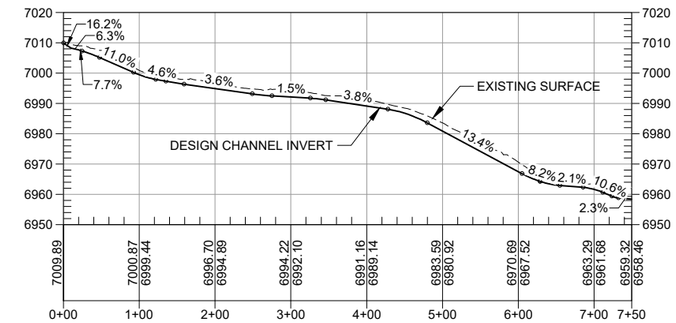






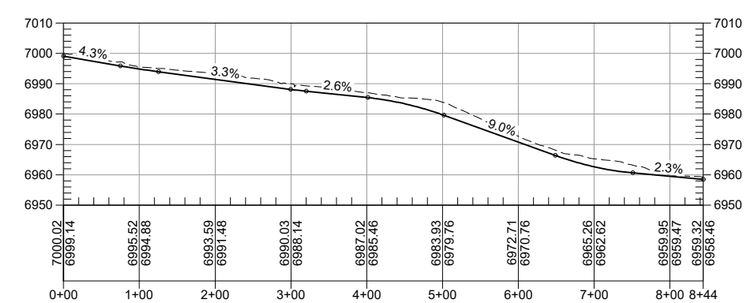
1 9-03 EAST REPOSITORY DRAINAGE CHANNEL PROFILE

HORZ 0 80 160
VERT 0 20 40
SCALE IN FEET



2 9-03 DILCO HILL DRAINAGE CHANNEL A PROFILE

HORZ 0 100 200
VERT 0 25 50
SCALE IN FEET



3 9-03 DILCO HILL DRAINAGE CHANNEL B PROFILE

HORZ 0 100 200
VERT 0 25 50
SCALE IN FEET

NOTE(S):

1. REMOVE EXISTING SEDIMENT ACCUMULATION IN CHANNEL

REV	DATE	BY	DESCRIPTION
C	04/09/18	KR	ISSUED FOR REVISED 95% DESIGN
B	10/30/17	KR	ISSUED FOR 95% DESIGN
A	07/15/16	CF	ISSUED FOR 30% DESIGN

DESIGNED J ERICKSON
CHECKED N HAWS
APPROVED J CUMBERS

Stantec

UNITED NUCLEAR CORPORATION AND NORTHEAST CHURCH ROCK MINE
McKINLEY COUNTY, NEW MEXICO
NORTHEAST CHURCH ROCK PROJECT 95% DESIGN
MILL SITE REPOSITORY AREA STORMWATER CONTROLS
REPOSITORY CHANNEL PROFILES

SHEET 9-03

233001048

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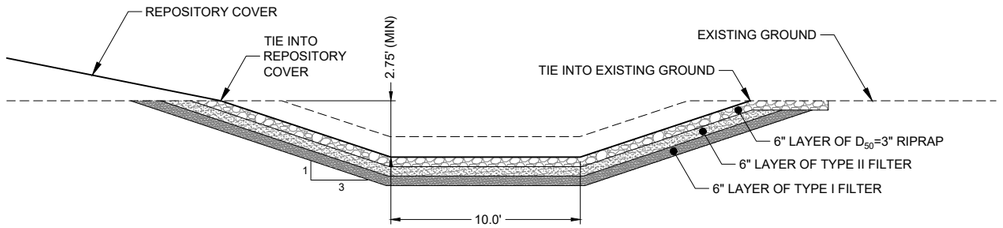
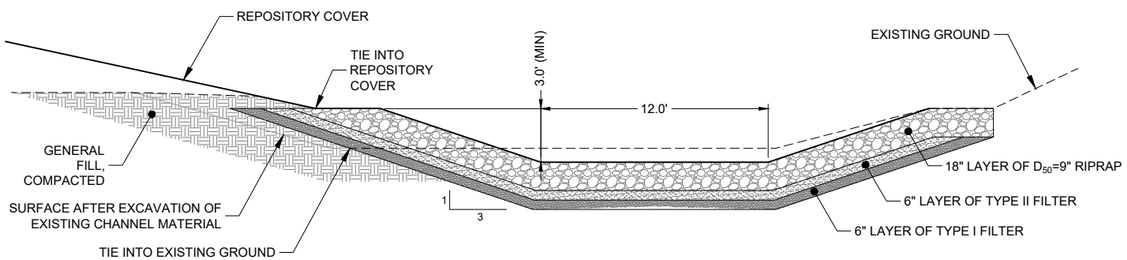
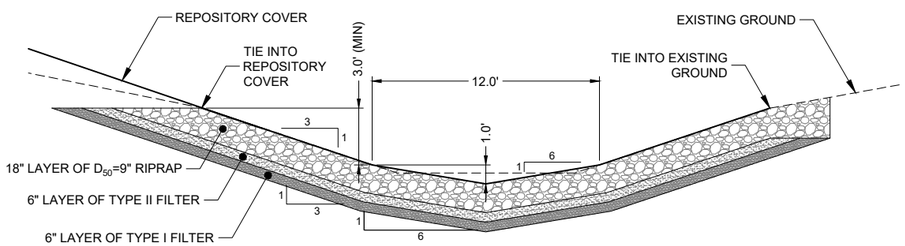


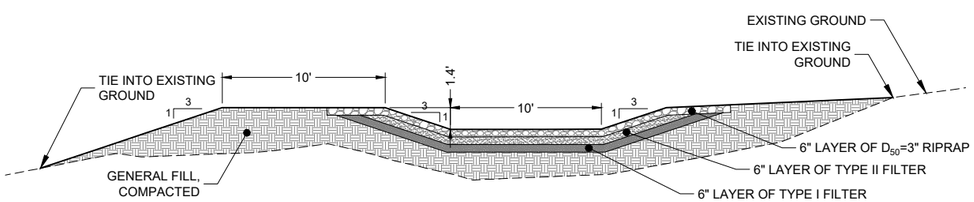
A 9-02 EAST REPOSITORY DRAINAGE CHANNEL TYPICAL SECTION
STA 18+50.0 TO 28+30.0 (NOT TO SCALE)



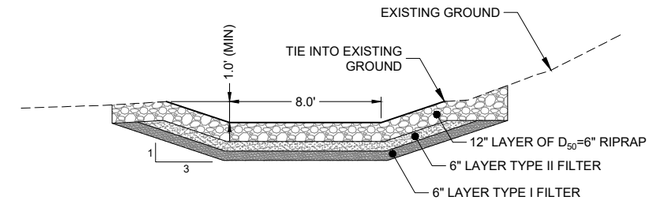
B 9-02 EAST REPOSITORY DRAINAGE CHANNEL TYPICAL SECTION
SECTION 28+30.0 TO 34+60.0 (NOT TO SCALE)



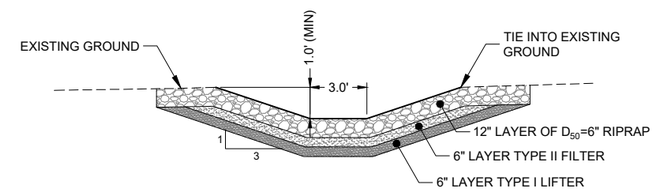
C 9-02 EAST REPOSITORY DRAINAGE CHANNEL TYPICAL SECTION
SECTION 34+60.0 TO 41+39.0 (NOT TO SCALE)



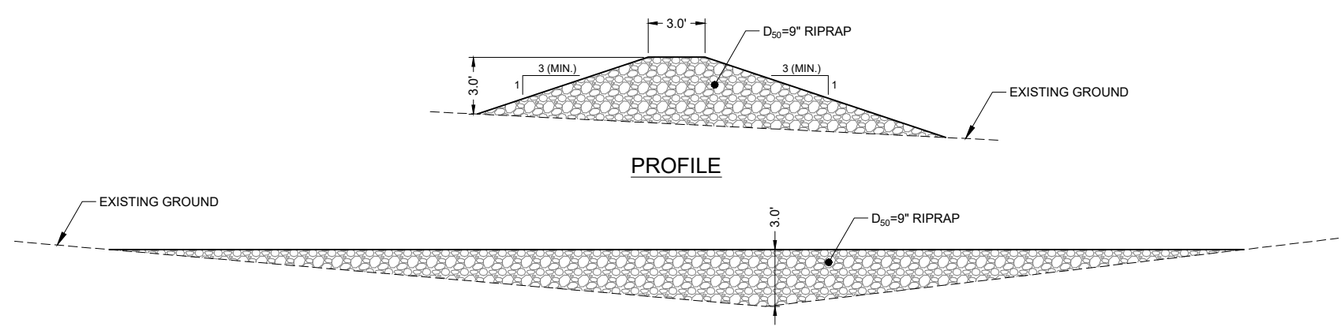
F 9-02 RUNNOFF CONTROL DITCH
(NOT TO SCALE)



D 9-02 DILCO HILL DRAINAGE CHANNEL A TYPICAL SECTION
(NOT TO SCALE)



E 9-02 DILCO HILL DRAINAGE CHANNEL B TYPICAL CHANNEL
(NOT TO SCALE)



1 9-02 TYPICAL ROCK CHECK DAM PROFILE AND SECTION
(NOT TO SCALE)

NOTE:

1. CONSTRUCT ROCK CHECK DAM TO 3' DEPTH AT DEEPEST POINT AND FILL ACROSS THE RAVINE PERPENDICULAR TO THE PREDOMINANT DRAINAGE FLOWPATH.

REV	DATE	BY	DESCRIPTION
C	04/09/18	RW	ISSUED FOR REVISED 95% DESIGN
B	10/30/17	KR	ISSUED FOR 95% DESIGN
A	07/15/16	CF	ISSUED FOR 30% DESIGN

DESIGNED J ERICKSON
CHECKED N HAWS
APPROVED J CUMBERS

Stantec

UNITED NUCLEAR CORPORATION AND NORTHEAST CHURCH ROCK MINE
McKINLEY COUNTY, NEW MEXICO
NORTHEAST CHURCH ROCK PROJECT 95% DESIGN
MILL SITE REPOSITORY AREA STORMWATER CONTROLS
DETAILS

SHEET 9-04
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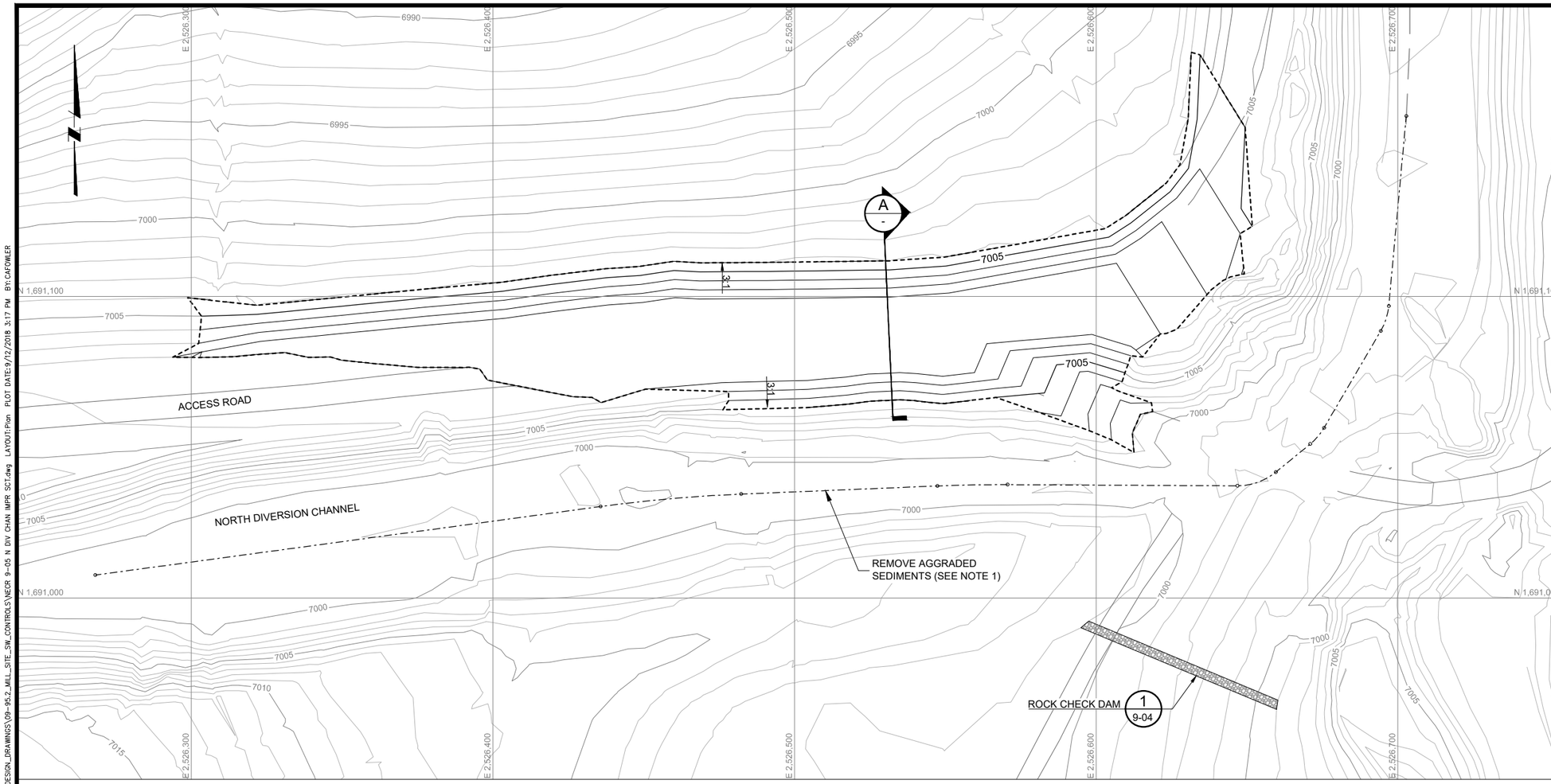


1 / 9-05 NORTH DIVERSION CHANNEL IMPROVEMENTS

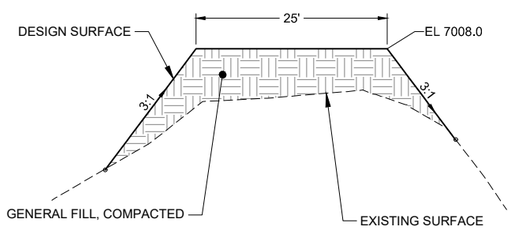
0 20 40
SCALE IN FEET

LEGEND:

- 7200 — EXISTING INVERT SURFACE CONTOUR & ELEVATION, FEET
- 7200 — PROPOSED INVERT SURFACE CONTOUR & ELEVATION, FEET
- DRAINAGE CHANNEL
- BRANCH SWALE
- DIVERSION CHANNEL
- EXISTING FENCE
- EXISTING ROAD

NOTES:

1. REMOVE AGGRADED SEDIMENTS ALONG THIS ALIGNMENT STARTING AT STA 0+00. MAINTAIN A SLOPE BETWEEN 0.5% AND 0.7% TO TIE INTO EXISTING GROUND AT STATION 5+25.



A / - NORTH DIVERSION CHANNEL IMPROVEMENTS SECTION

0 10 20
SCALE IN FEET

REV	DATE	BY	DESCRIPTION
D	09/24/18	KR	ISSUED FOR LAR
C	04/09/18	RW	ISSUED FOR REVISED 95% DESIGN
B	10/30/17	KR	ISSUED FOR 95% DESIGN
A	07/15/16	CF	ISSUED FOR 30% DESIGN

DESIGNED J ERICKSON
CHECKED N HAWS
APPROVED J CUMBERS

Stantec

UNITED NUCLEAR CORPORATION AND NORTHEAST CHURCH ROCK MINE
McKINLEY COUNTY, NEW MEXICO
NORTHEAST CHURCH ROCK PROJECT 95% DESIGN
MILL SITE REPOSITORY AREA STORMWATER CONTROLS
NORTH DIVERSION CHANNEL IMPROVEMENTS

SHEET
9-05
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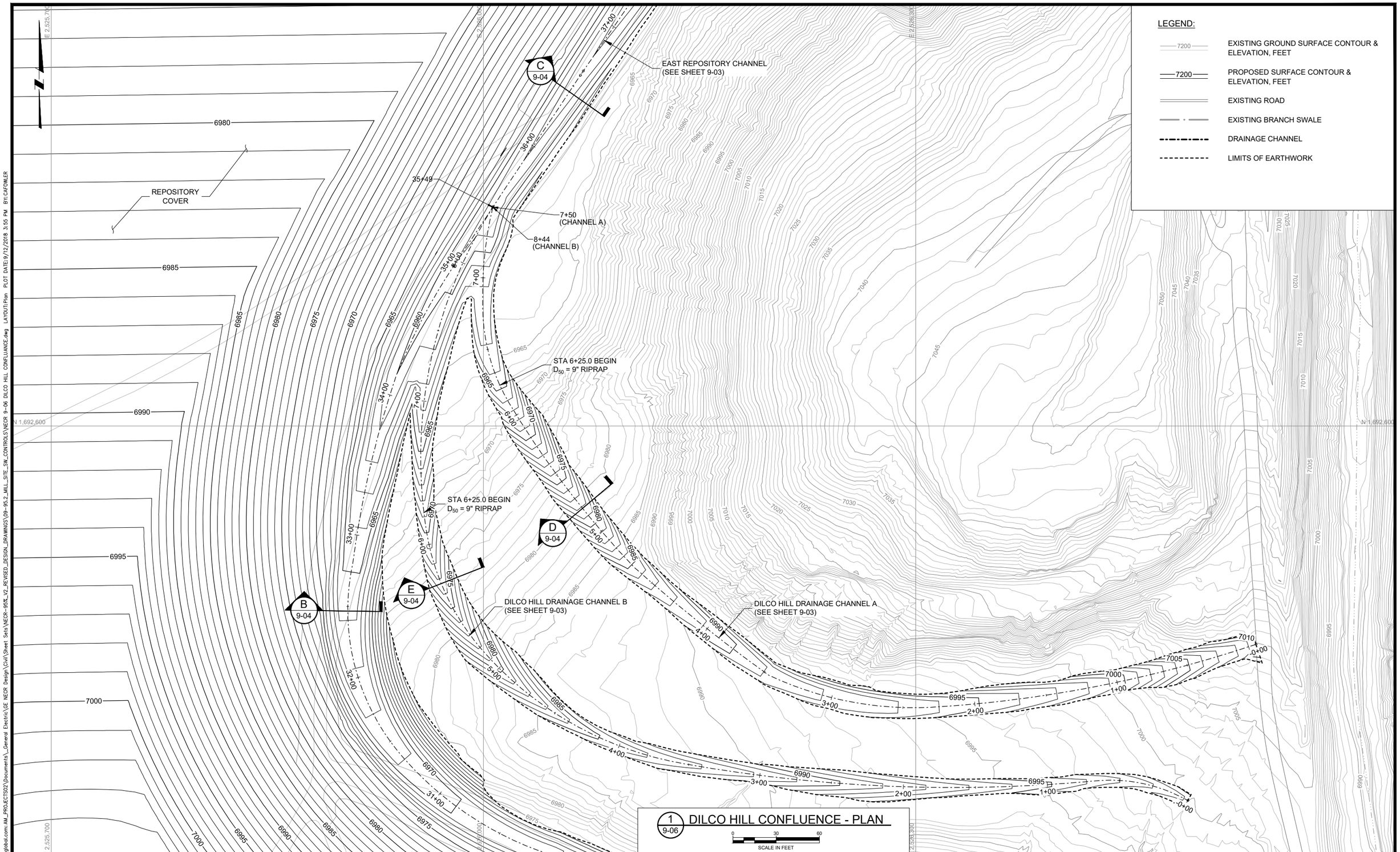

1 9-06 DILCO HILL CONFLUENCE - PLAN

0 30 60
SCALE IN FEET

REV	DATE	BY	DESCRIPTION
D	09/24/18	KR	ISSUED FOR LAR
C	04/09/18	KR	ISSUED FOR REVISED 95% DESIGN
B	10/30/17	KR	ISSUED FOR 95% DESIGN
A	07/15/16	CF	ISSUED FOR 30% DESIGN

DESIGNED J ERICKSON
CHECKED N HAWS
APPROVED J CUMBERS

Stantec

UNITED NUCLEAR CORPORATION AND NORTHEAST CHURCH ROCK MINE
McKINLEY COUNTY, NEW MEXICO
NORTHEAST CHURCH ROCK PROJECT 95% DESIGN
MILL SITE REPOSITORY AREA STORMWATER CONTROLS
DILCO HILL CHANNEL CONFLUENCE

SHEET
9-06
233001048

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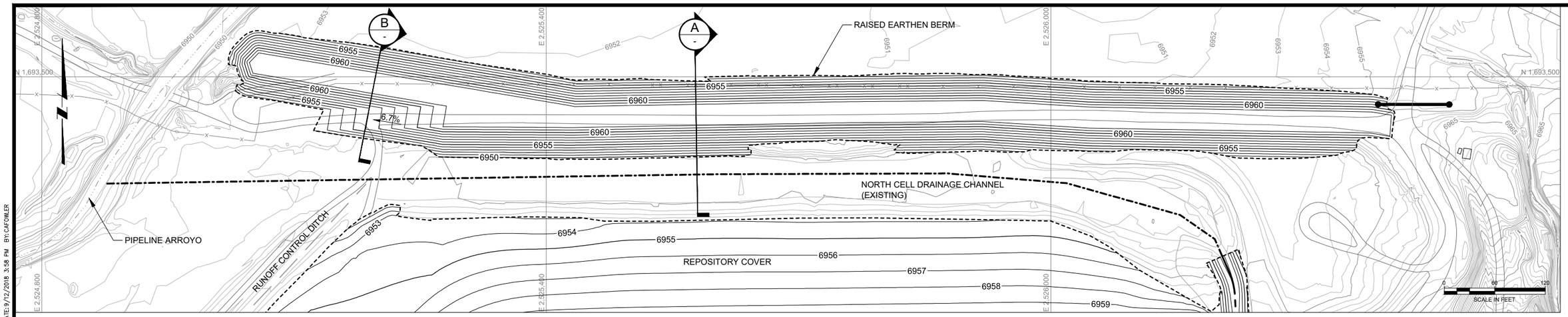
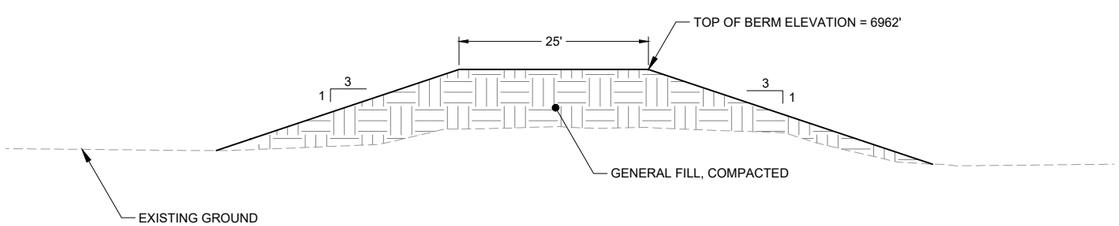
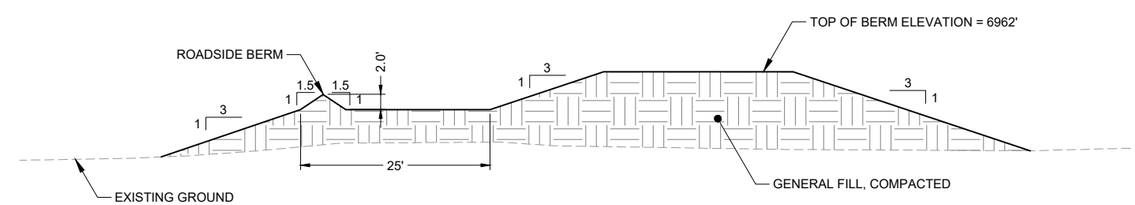


LEGEND:

- 7200 — EXISTING GROUND SURFACE CONTOUR & ELEVATION, FEET
- 7200 — PROPOSED SURFACE CONTOUR & ELEVATION, FEET
- DRAINAGE CHANNEL
- DIVERSION CHANNEL
- EXISTING ROAD
- NATURAL DRAINAGE
- EXISTING FENCE
- STRUCTURES
- LIMITS OF EARTHWORK
- GATE



A - SECTION A - RAISED EARTHEN BERM TYPICAL SECTION
(NOT TO SCALE)



B - SECTION B - RAISED EARTHEN BERM WITH ACCESS RAMP TYPICAL SECTION
(NOT TO SCALE)

REV	DATE	BY	DESCRIPTION
D	09/24/18	KR	ISSUED FOR LAR
C	04/09/18	KR	ISSUED FOR REVISED 95% DESIGN
B	10/30/17	KR	ISSUED FOR 95% DESIGN
A	07/15/16	CF	ISSUED FOR 30% DESIGN

DESIGNED J ERICKSON
CHECKED N HAWS
APPROVED J CUMBERS

Stantec

UNITED NUCLEAR CORPORATION AND NORTHEAST CHURCH ROCK MINE
McKINLEY COUNTY, NEW MEXICO
NORTHEAST CHURCH ROCK PROJECT 95% DESIGN
MILL SITE REPOSITORY AREA STORMWATER CONTROLS
NORTH CELL EARTHEN BERM

SHEET
9-07
233001048

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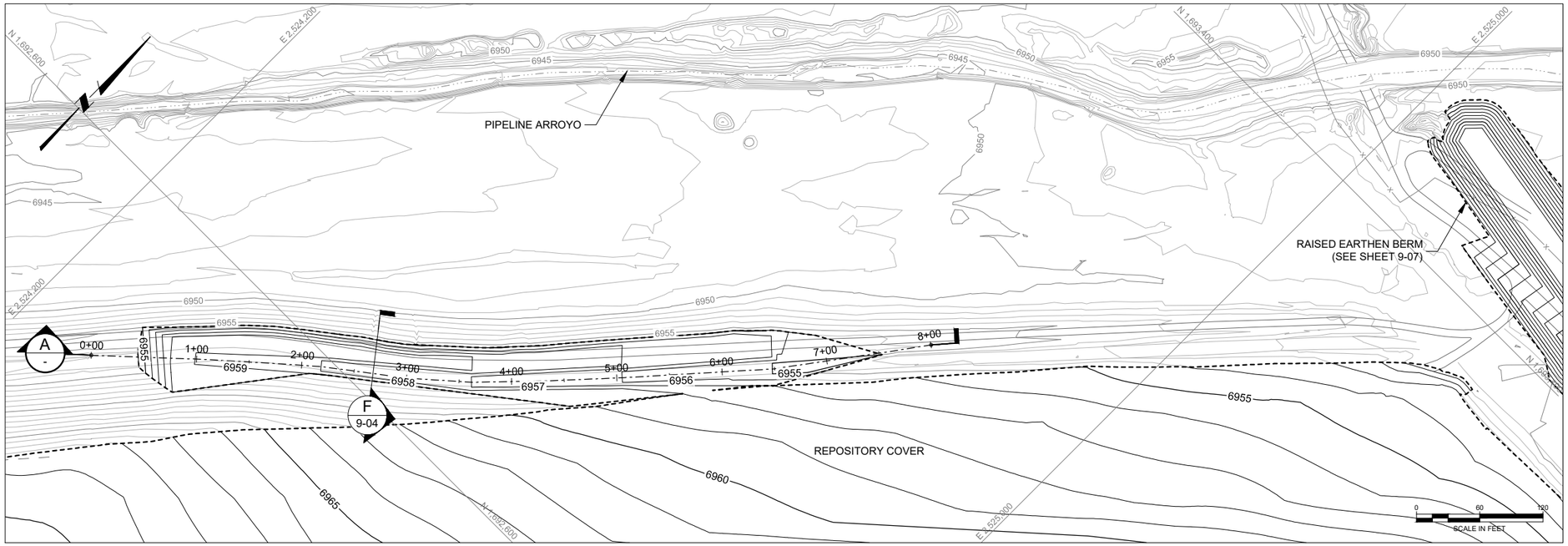
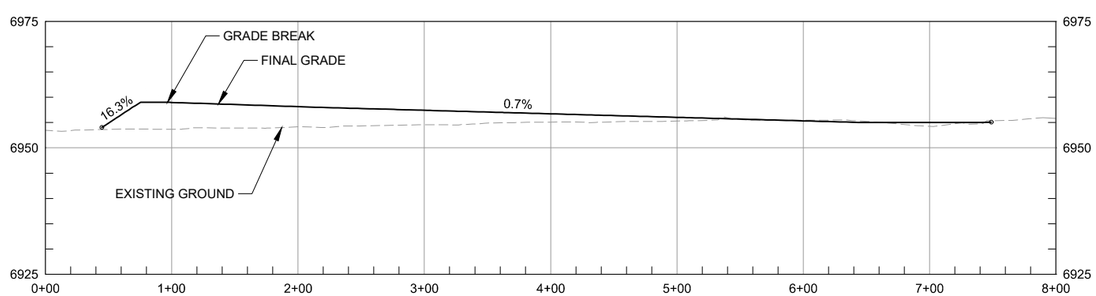
LEGEND:

- 7200 — EXISTING GROUND SURFACE CONTOUR & ELEVATION, FEET
- 7200 — PROPOSED SURFACE CONTOUR & ELEVATION, FEET
- DRAINAGE CHANNEL
- EXISTING ROAD
- NATURAL DRAINAGE
- LIMITS OF EARTHWORK



1 / 9-08 RUNOFF CONTROL DITCH
PLAN VIEW



A / - PROFILE A - RUNOFF CONTROL DITCH

REV	DATE	BY	DESCRIPTION
D	09/24/18	KR	ISSUED FOR LAR
C	04/09/18	RW	ISSUED FOR REVISED 95% DESIGN
B	10/30/17	KR	ISSUED FOR 95% DESIGN

DESIGNED J ERICKSON
CHECKED N HAWS
APPROVED J CUMBERS

Stantec

UNITED NUCLEAR CORPORATION AND NORTHEAST CHURCH ROCK MINE
McKINLEY COUNTY, NEW MEXICO
NORTHEAST CHURCH ROCK PROJECT 95% DESIGN
MILL SITE REPOSITORY AREA STORMWATER CONTROLS
RUNOFF CONTROL DITCH - PLAN AND PROFILE

SHEET
9-08
233001048

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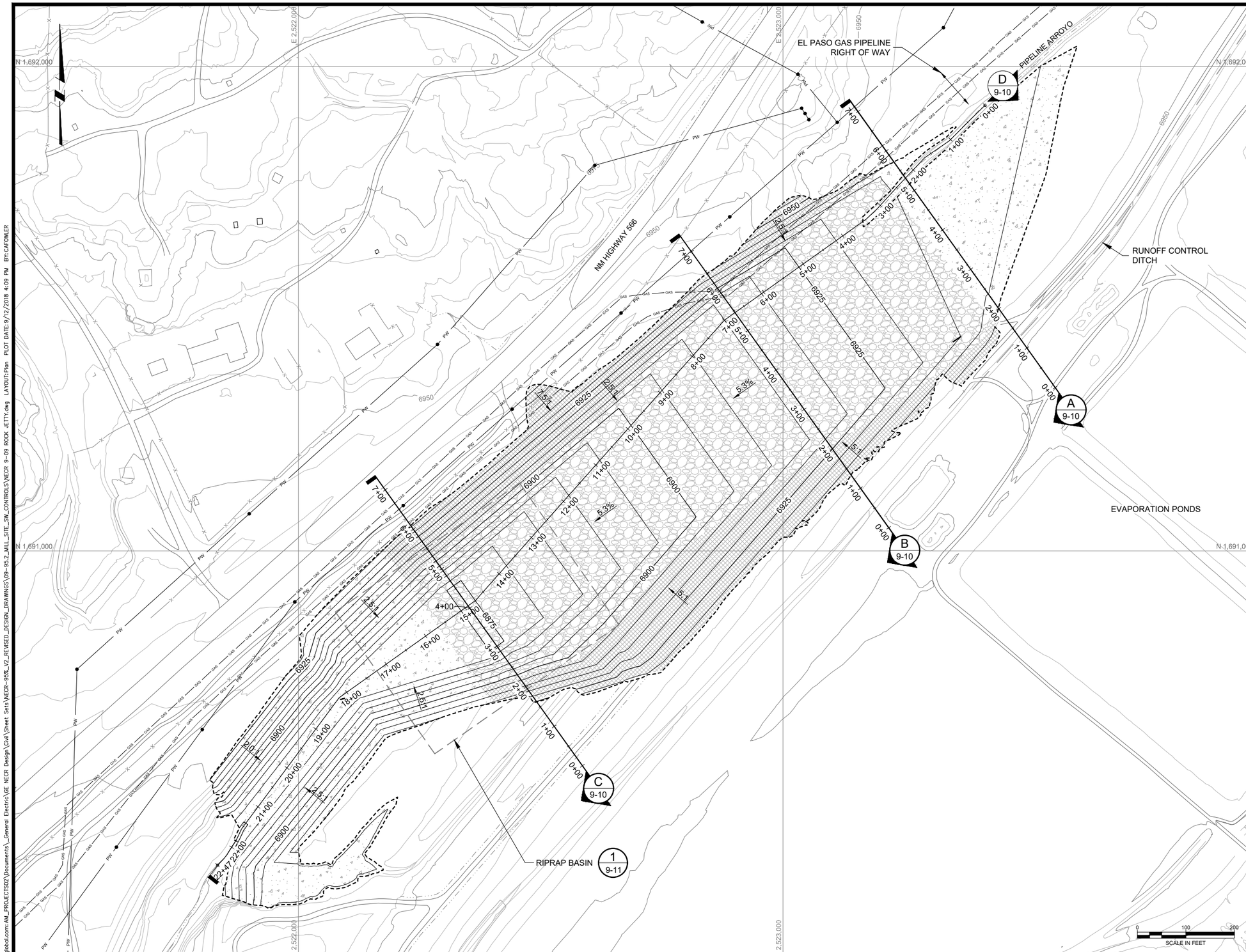

LEGEND:

- EXISTING GROUND SURFACE CONTOUR & ELEVATION, FEET (7200)
- PROPOSED SURFACE CONTOUR & ELEVATION, FEET (7200)
- DRAINAGE CHANNEL
- EXISTING ROADS
- NATURAL DRAINAGE
- EXISTING FENCE
- STRUCTURES
- OVERHEAD POWER LINE (PW)
- LIMITS OF EARTHWORK
- D_{50} = 27" RIPRAP
- D_{50} = 3" RIPRAP
- BOTTOMLAND SEED MIX

REV	DATE	BY	DESCRIPTION
D	09/24/18	KR	ISSUED FOR LAR
C	04/09/18	RW	ISSUED FOR REVISED 95% DESIGN
B	10/30/17	KR	ISSUED FOR 95% DESIGN
A	07/15/16	RW	ISSUED FOR 30% DESIGN

DESIGNED J ERICKSON
CHECKED N HAWS
APPROVED J CUMBERS

Stantec

UNITED NUCLEAR CORPORATION AND NORTHEAST CHURCH ROCK MINE
McKINLEY COUNTY, NEW MEXICO
NORTHEAST CHURCH ROCK PROJECT 95% DESIGN
MILL SITE REPOSITORY AREA STORMWATER CONTROLS
RIPRAP CHUTE

SHEET
9-09
233001048

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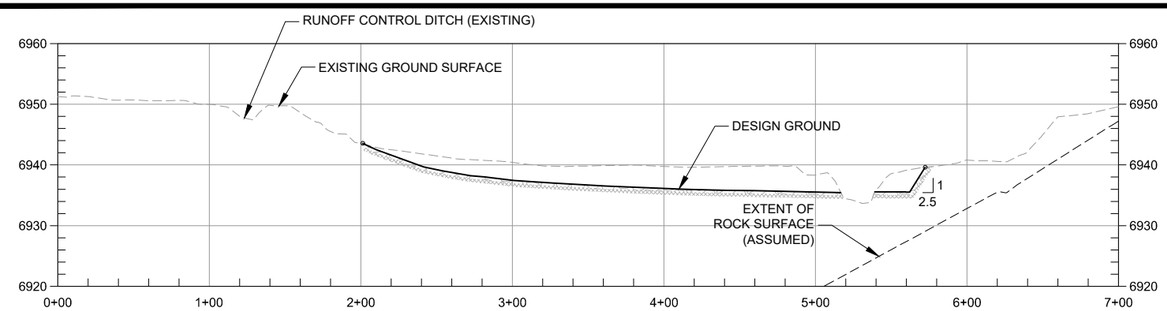
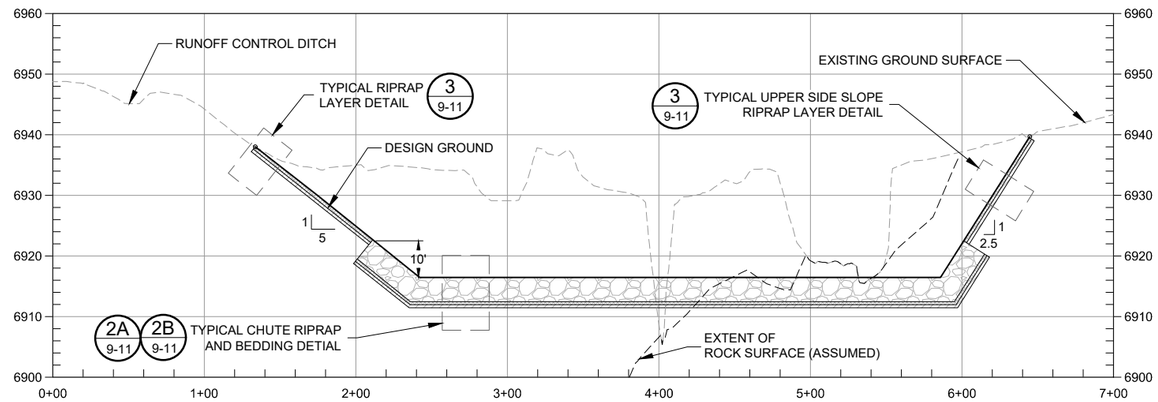
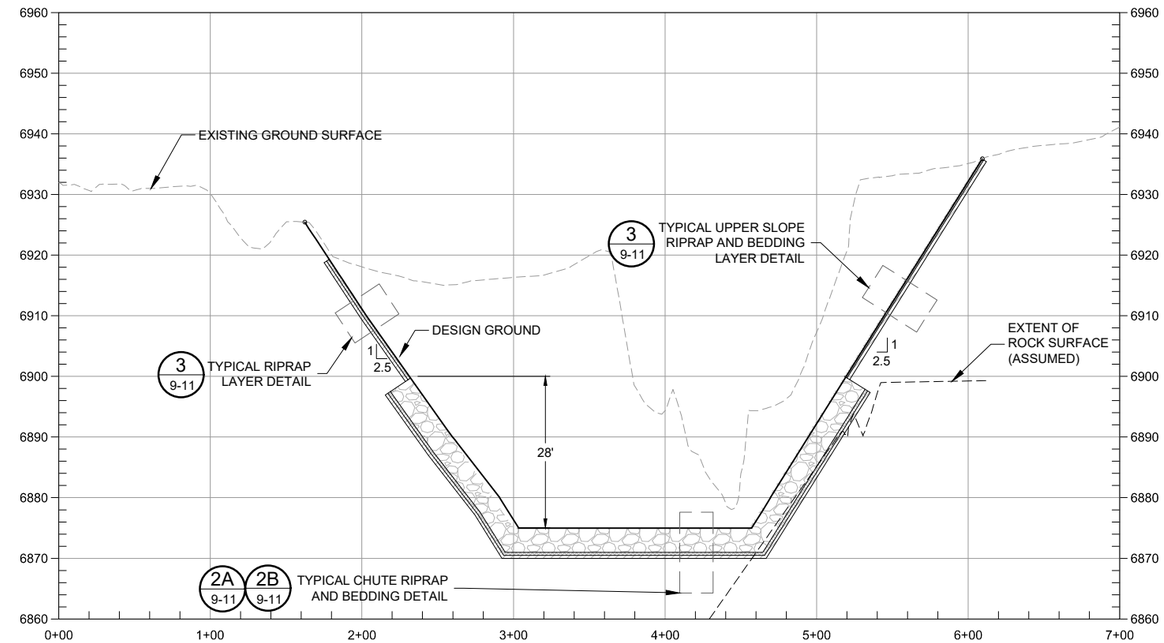


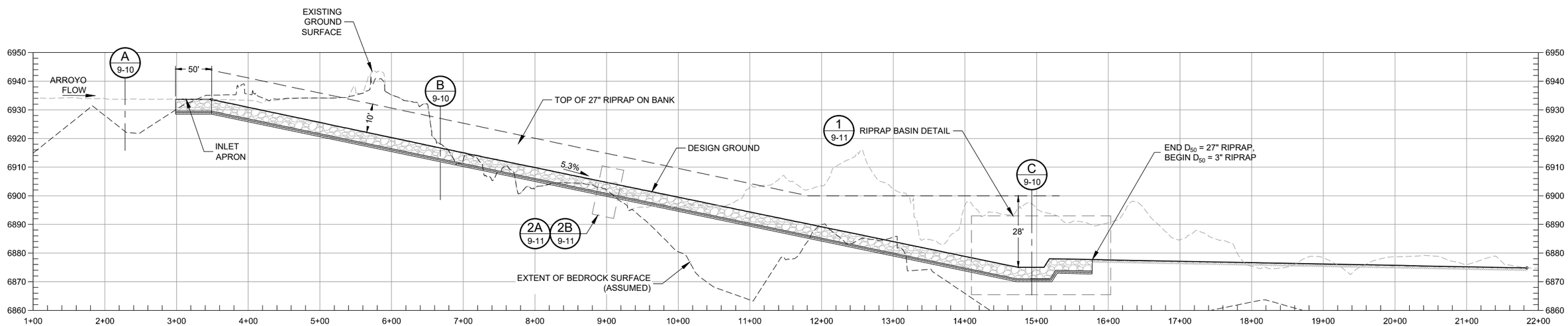
A 9-10 SECTION A



B 9-10 SECTION B



C 9-10 SECTION C



D 9-10 SECTION D

HORZ 0 70 140
VERT 0 17.5 35
SCALE IN FEET

REV	DATE	BY	DESCRIPTION
C	04/09/18	RW	ISSUED FOR REVISED 95% DESIGN
B	10/30/17	KR	ISSUED FOR 95% DESIGN
A	03/15/16	RW	ISSUED FOR 30% DESIGN

DESIGNED J ERICKSON
CHECKED N HAWS
APPROVED J CUMBERS

Stantec

UNITED NUCLEAR CORPORATION AND NORTHEAST CHURCH ROCK MINE
McKINLEY COUNTY, NEW MEXICO
NORTHEAST CHURCH ROCK PROJECT 95% DESIGN
MILL SITE REPOSITORY AREA STORMWATER CONTROLS
RIPRAP CHUTE SECTIONS

SHEET 9-10

233001048

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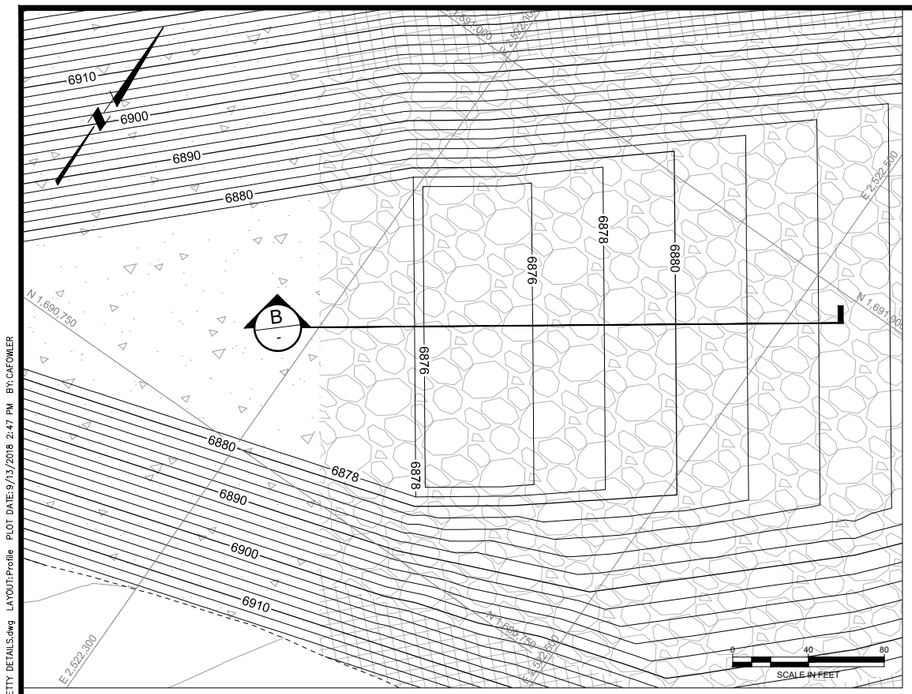
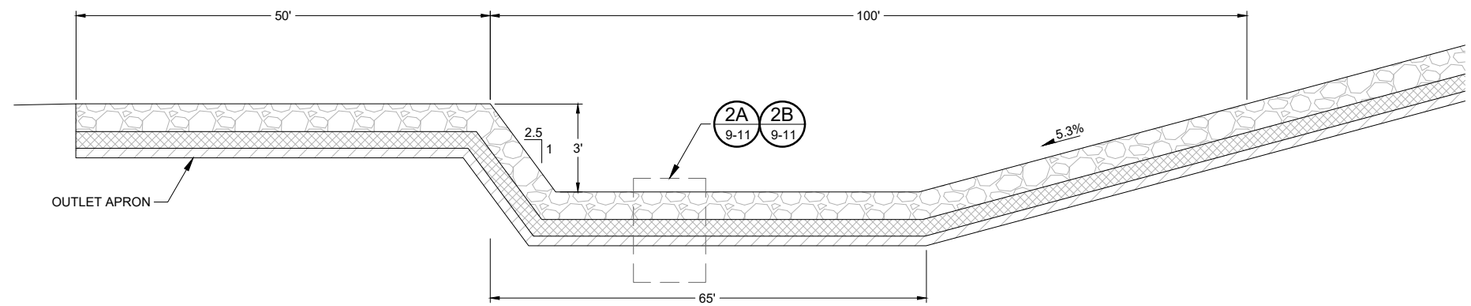
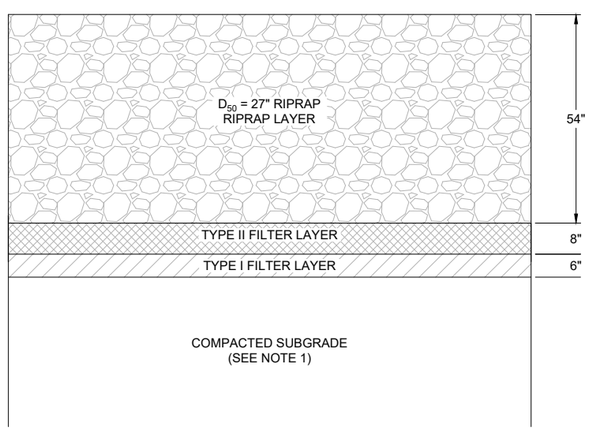


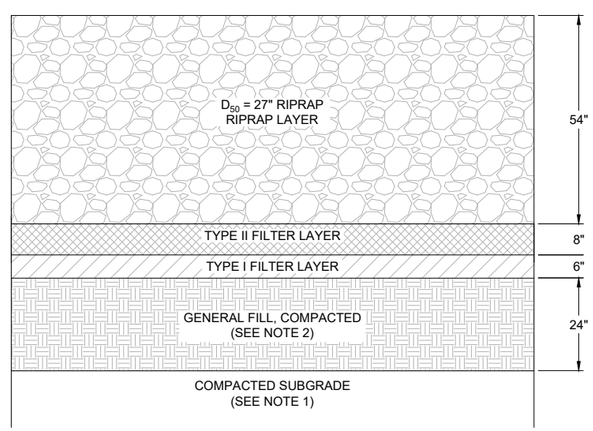
1 / 9-11 RIPRAP BASIN - PLAN



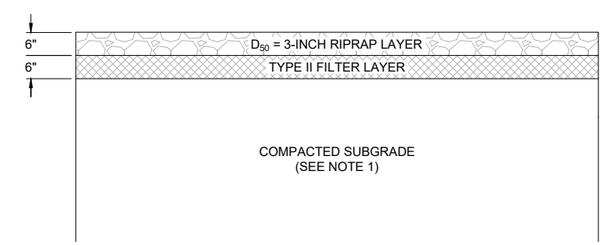
B / - SECTION B - RIPRAP BASIN
(NOT TO SCALE)



2A / 9-11 TYPICAL CHUTE RIPRAP AND BEDDING DETAIL
FOR AREAS OF CUT (NOT TO SCALE)



2B / 9-11 TYPICAL CHUTE RIPRAP AND BEDDING DETAIL
FOR AREAS OF FILL (NOT TO SCALE)



3 / 9-11 TYPICAL UPPER SIDE SLOPE RIPRAP AND BEDDING DETAIL
(NOT TO SCALE)

NOTES:

1. PREPARE AND COMPACT UPPER FOOT TO MINIMUM 95% OF MAXIMUM DRY DENSITY PER STANDARD PROCTOR.
2. COMPACT TO 95% MAXIMUM DRY DENSITY PER STANDARD PROCTOR IN 6-INCH LIFTS.

REV	DATE	BY	DESCRIPTION
C	04/09/18	KR	ISSUED FOR REVISED 95% DESIGN
B	10/30/17	KR	ISSUED FOR 95% DESIGN
A	03/15/16	RW	ISSUED FOR 30% DESIGN

DESIGNED J ERICKSON
CHECKED N HAWS
APPROVED J CUMBERS

Stantec

UNITED NUCLEAR CORPORATION AND NORTHEAST CHURCH ROCK MINE
McKINLEY COUNTY, NEW MEXICO
NORTHEAST CHURCH ROCK PROJECT 95% DESIGN
MILL SITE REPOSITORY AREA STORMWATER CONTROLS
RIPRAP CHUTE DETAILS

SHEET
9-11
233001048

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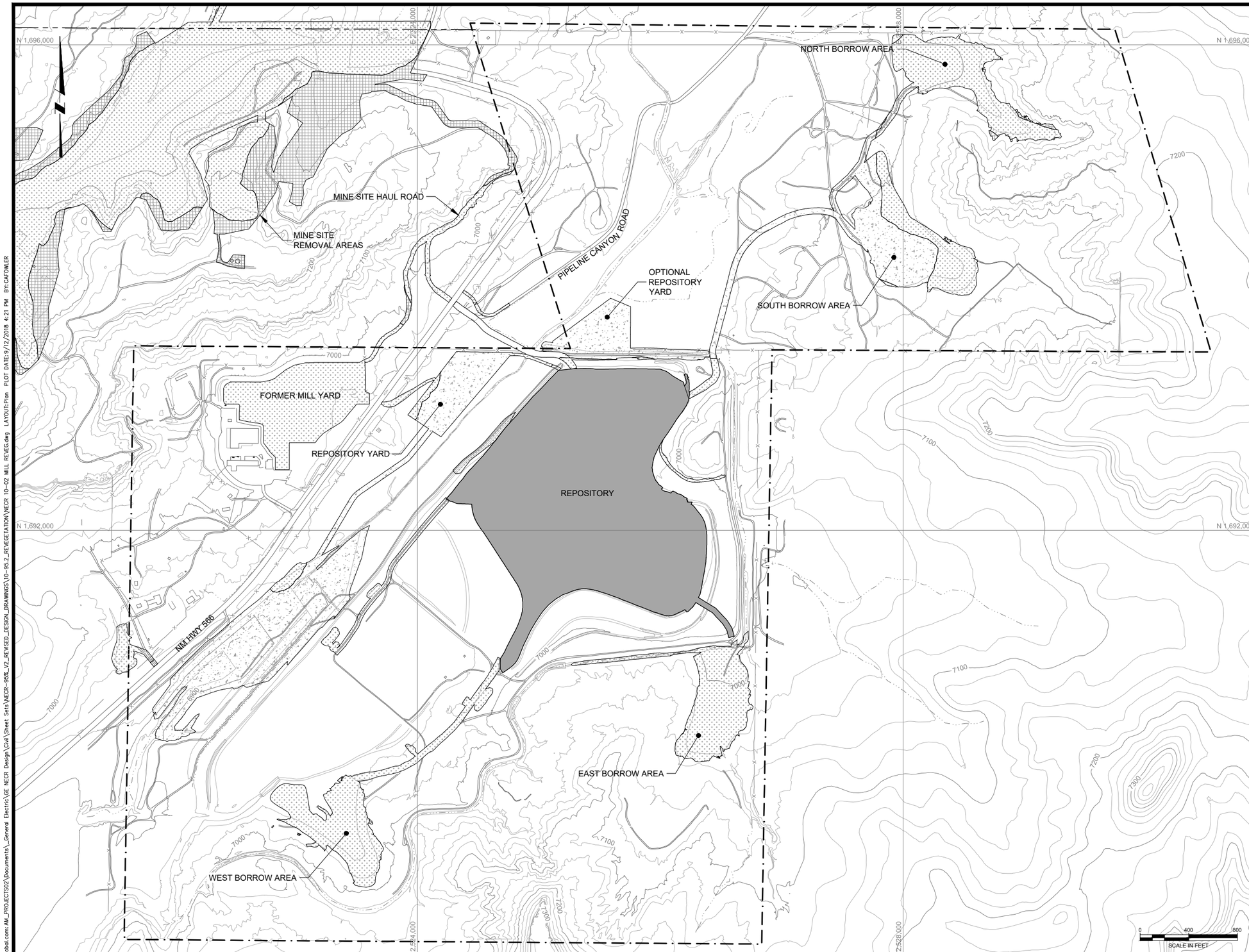

LEGEND:

- EXISTING GROUND SURFACE CONTOUR & ELEVATION, FEET (7200)
- UNC PROPERTY BOUNDARY
- APPROXIMATE NAVAJO NATION BOUNDARY
- ROADS
- NATURAL DRAINAGE
- EXISTING FENCE
- STRUCTURES
- PINON-JUNIPER SEED MIX
- GRASSLAND-SHRUBLAND SEED MIX
- BOTTOMLAND SEED MIX
- REPOSITORY SEED MIX

NOTE:

1. SEED MIXES FOR REVEGETATION BY CEDAR CREEK ASSOCIATES, INC.

REV	DATE	BY	DESCRIPTION
D	09/24/18	KR	ISSUED FOR LAR
C	04/09/18	KR	ISSUED FOR REVISED 95% DESIGN
B	10/30/17	KR	ISSUED FOR 95% DESIGN
A	07/15/16	CF	ISSUED FOR 30% DESIGN

DESIGNED K REED
CHECKED M DAVIS
APPROVED J CUMBERS

Stantec

UNITED NUCLEAR CORPORATION AND NORTHEAST CHURCH ROCK MINE
McKINLEY COUNTY, NEW MEXICO

NORTHEAST CHURCH ROCK PROJECT 95% DESIGN
MILL SITE REVEGETATION PLAN

SHEET
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